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NOVEMBER

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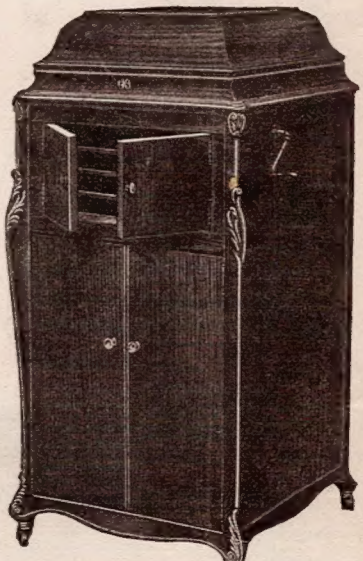

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THE FRANK A. MUNSEY COMPANY, 175 Fifth Avenue, New York, and Temple House, Temple Avenue, E. C., London

FRANK A. MUNSEY, President RICHARD H. TITHERINGTON, Secretary CHRISTOPHER H. POPE, Treasurer

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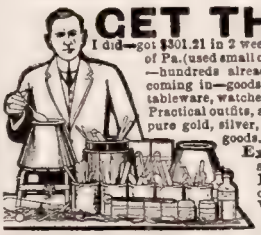

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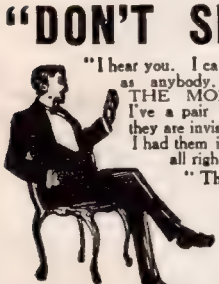

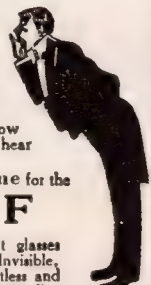

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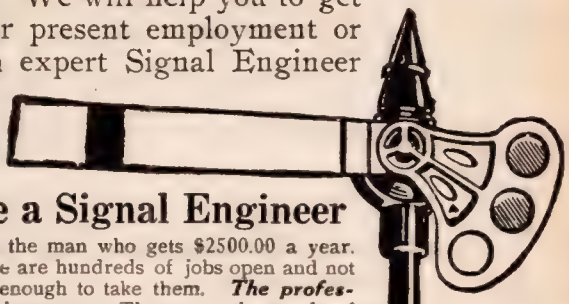

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RAILROAD MAN'S MAGAZINE

Vol. XXV NOVEMBER, 1914. No. 3.

Side-Tracked By a Sea Dog.

The Yardmaster's Yearning for a Long Lost Three-Dollar Loan Inspires a Story With a Real Punch.

BY GEORGE T. PARDY.

T' was in the early part of 1899 when the Spanish War was settled and heroes as thick as flies in a sugar-pot. In them days any panhandler as could get hold of an army or navy uniform had a soft thing of it graftin' on the sympathies of such folks as was strong on the hero racket.

I was switchin' in the Santa Fe yards at Chicago, eight years afore I come East and lost my right fin on the Penn. It was then that I fust met this Wade Adams. He showed up lookin' for work, an' Joe Clint, the yardmaster, put him on th' extry list. He was a whoppin' big guy, 'bout six foot six tall, and built like a box car. Fine-lookin' chap, most womenfolk 'u'd call him. He could outcuss the best talkin' switchy we had.

Now I never knew for sure whether this here Adams had been a sailor fighter or not. He was there with an awful line of chat concernin' the big sea-battle at Manila when Dewey chewed up the Spanish fleet in jig time; but whether he just read about it in the papers and borried a uniform afterward, so that he could lie with somethin' to back him up, or was really the admiral's side-kick all through the fuss, is more'n I could swear to.

Me, Paddy Fitzgerald, and Pete Boyle was havin' a glass of beer together when Adams horned in an' joined us. Bein' as he had only worked ten days that month, he was kind of short an' he picked me for a touch. I was allers a generous sort of gink, an' I passed him the three without a word. Fifteen years ago that was, an' I remember diggin' for the cush same as if it was yesterday.

Whenever Adams was layin' off, which he was doin' most of the time, not bein' the sort of gink likely to kill hisself workin' if he could help it, he usually rigged hisself out in them wide pants an' blue jacket an' spent his time tellin' yarns of terrible fightin' in the navy. Oncet he got the floor an' got started good there wasn't no use any one else tryin' to cut in. Adams had the gift of the gab very convincin' an' somehow he could make folks as wouldn't spend a nickel on a deservin' switchman loosen up somethin' scand'lous.

It was that way with Fitz an' Boyle. Neither of them was given to blowin' theirselves on outsiders; they usually traveled in pairs, and about the time Wade Adams showed up in Chicago they was almost inseparable. The reason for this wasn't altogether because of the love they had for each other, though love had somethin' to do with it at that.

Fact of the matter was they both had an eye on the widow Norton, and each bein' afraid the other 'u'd get the inside track, they kind of kept a close watch on each other. Mrs. Norton's husband had been a freight conductor, who got hisself bumped off in a wreck. He was insured for five thousand dollars, an' the widow got the cash without any trouble. Norton had been dead over a year, an' as the widow was a fine-lookin', hearty sort of woman with a likin' for hard-workin' railroad chaps, it was a safe bet that she wouldn't stay single long.

Boyle an' Fitz was well acquainted with her, and she seemed to have taken a better shine to them than any of the other fellers as was danglin' after her. They was both savin' guys as worked steady, an' each had a nice little bank-account put away; but so fur as any one could see, the widow hadn't made up her mind which of 'em she'd tie up to.

Fust off they tried callin' on her separate, but if Fitz happened to get to the boardin'-house where she stayed before Boyle did it was a dead sure thing that afore he was sittin' in the parlor with Mrs. Norton twenty minutes Pete 'ud show up an' make a three-handed game of it.

There was no quit to either of 'em, an' as each figgered when the other was out of sight he might be doin' a sneak up to Mrs. Norton's place, they got so that they chummed around together all the time. They felt safer, although they was fair eaten up with jealousy.

When Adams butted in with us it wasn't long afore his oily tongue was goin' strong on the flatterin' lay with Fitz and his pardner. I don't mind admittin' that he had told me a few things fust as made me warm up to him a whole lot. A man likes to be appreciated, an' when he told me that of all the foremen he'd worked with he'd never seen my equal for fast, accurate switching east or west of the Rockies, I knowed he was tellin' the truth and honored him fur it. It was then he braced me fur the three, and after wot he had said I couldn't well refuse him.

But when he began handin' out the salve to Boyle an' Fitz I felt kind of disgusted. Flattery never did make a hit with me. I has my faults, mebbe not so many, but a few, just like most folks, an' I ain't goin' to deny it; but what he said about me was correct, every word, while the fuss he made over Paddy an' Pete was reedicilous. They couldn't see as he was lyin', of course. The more ignorant fellers are, the more ready they'll believe that they stand ace high in their business.

An' when he told Paddy he was quicker than a cat on his feet an' the greatest car-catcher he ever lamped, Fitz swelled up like a poisoned toad an' never took no notice when I busted out laughin' right in his map. Why, he wasn't only a bow-legged, sway-backed runt, an' had a pair of gunboat feet that he was always a trippin' over. As for him hoppin' cars—well, I never could figger out why he wasn't gettin' killed every five minutes.

Same way with Boyle. When Adams told him that he'd learned more about real, up-to-date railroadin' through workin' with him a few times than he'd picked up in all the years he'd been in the game, you could just see the satisfaction and delight fair oozin' out of the fool. Human nature's a disgustin' thing sometimes — almost makes a straightforward, clear-minded chap like meself wish he'd been born a ostrich or some other kind of animile.

Bein' as they was both buttered up nicely, it wasn't long afore each of 'em begins boastin' an' tellin' wot a hit they was used to makin' with the ladies. Adams said as how he could easily see that they was just the sort of fellers as dames would go daffy over.

"It's all in the eye," says Adams. "There's some chaps has only to give a woman the once-over an' her fate is sealed."

"Well," says Fitz, glarin' like a wolf at his partner, "if that there Pete is ever able to win a skirt by lampin' at her it'll be because his ugly mug scares her crazy an' she don't know what she's doin'."

"Huh!" responds Pete. "I'm hep to a certain party as has been stared at by that moon-sick calf over there for months, an' all he's done is to make the poor woman tired."

They passes each other a few more such compliments and it almost looks like there'll be a scrap; but Adams soothes 'em both down and presently gets 'em to tellin' him all about the widow.

"An' to show you how strong I am with her," says Fitz, "she's promised to take a trip on a steamboat to Benton Harbor with me next Sunday."

"With you!" says Boyle, sneering. "With me, you mean. Of course, when you had the gall to fair beg for an invite, she couldn't very well shut you out, not wantin' to hurt your feelin's. An' after she said you could come along you couldn't do no more than offer to stand half the expenses."

They wrangled like this for the better part of two hours and finally went off together abusin' each other. Adams and me stayed back a while, but presently he gets hold of another sucker an' begins imitatin' the dyin' screeches of the wounded Spanish sailors when they were sinkin' with their ships, an' bein' as his blasted roars gimme a headache, an' he showed no signs of spendin' any of the coin he borried, I beat it for home.

Next Sunday Mrs. Norton trots up the gangway of the Benton Harbor boat with Fitz and Pete at her heels, all of 'em dolled up in their best. There was a pretty big crowd on board, and the boys has a hard time finding a place where they can sit comfortable; but presently they get fixed up by the bow and the boat steams out into the lake.

Both of 'em are busy pointing out places along the shore that they think 'll interest the lady, when Fitz happens to turn his head and he gives a gasp that brings Mrs. Norton and Pete round in a hurry.

There before 'em stands Adams, a big mountain of a man, lookin' magnificent and haughty in his bluejacket's uniform an' smilin' all over his face. He brings his hand up to his head and salutes in reg'lar navy style.

"Come on board, mates!" he says. "Ain't it a strange thing I happened to think of taking a sail this fine mornin', just for the sake of recallin' old times on the ocean wave, and run into my two best pals?"

Neither of 'em says anything for a minute, until Pete kind of recovers hisself and growls somethin' about it bein' remarkable all right. Then he looks at Fitz, and Fitz only turns red and stammers. Adams keeps starin' straight at 'em, stealin' a glance now and then at the widow. She gives Fitz a poke in the side with her elbow.

"Ain't you got no manners?" she whispers to him. "Why don't you introduce the gentleman?"

Seein' there was no help for it, Fitz

did as he was asked. He stood up to do the introduction act proper, and Adams, after shaking hands with Mrs. Norton, sat down in the deck-chair beside her—a chair that poor Fitz had had his own troubles gettin' hold of. Fitz is boilin' mad, but Boyle only grins at him, while Adams talks away with the lady same as if he had known her all his life.

There was no other seats to be had, and, after huntin' around a while, Paddy gave it up and came back to lean on the side of the boat and listen to Wade Adams makin' hisself agreeable to the widow. By this time Pete Boyle had stopped grinnin', for he begin to see that neither him or his pardner was goin' to cut much figure in the excursion except so far as payin' the expenses went.

"I suppose this must remind you of the days when your home was on the deep, Mr. Adams," says Mrs. Norton.

"Why, yes," says Adams; "I love to feel the good ship boundin' beneath me, an' if I could only hear the crash an' thunder of the guns I'd be perfectly happy. Even as it is I could almost imagine I'm treading the quarter-deck of the Olympia with George Dewey pacin' alongside me."

"Mebbe if you was to get up an' walk round a spell it 'u'd seem still more natural to you," suggests Fitz; but Adams only grinned and shook his head.

"Thankee, but I'm comfortable enough as I am," says he; and the widow cuts in:

"Then you are really acquainted with Admiral Dewey, Mr. Adams! How splendid it must be to possess the friendship of such a great man!"

"George an' me was more than friends," says Adams. "I'd have given my heart's blood for him, an' he knowed it an' appreciated the same. There was nothin' too good fur Wade Adams in his old admiral's eyes."

"Queer thing he let you stick around as a common, ornery bluejacket if he thought such a heap of you," snarls Fitz. "If such a way-up guy as Dewey was a pal of mine I wouldn't be switchin' cars for a livin'."

"I could explain that easy enough if I wanted to," says Adams; "but I'm under oath to keep my face closed for the present. There's politics and government secret-service plots behind it all. If George Dewey ast me not press my rights to command of the finest battle-ship in the American navy until he give the word to go ahead, I'd be a traitor to him an' my country to refuse.

"If either you or Pete was patriots you'd understand my position, but unless a man has fought and bled for the nation he can't be hep to what real self-sacrifice means."

"You have a noble nature," says the widow, and Adams makes her a graceful bow.

"I could tell that our souls was in sympathy the moment I set eyes on you, Mrs. Norton," he says. "An' there's nothin' so sweet as sympathy to the heart of a true seaman. George Dewey was chock full of it. Well I remember how he leaned his head on my shoulder and wept when he was alone in his cabin the day afore we entered Manila Harbor. I had just showed him my idea of how the attack ought to be made, and the beauty of the plan affected him so that he couldn't keep back the tears.

"'It's you that should be in command of this layout, Wade, old pal,' says he. 'Napoleon Bonaparte or any of them old-time sea-kings was fools compared with you.'"

"I didn't know as Napoleon was a sailor," says Boyle; but the widow gives him a scornful look.

"Don't expose your ignorance, Mr. Boyle," says she. "It'd become you better to improve your mind by listening to Mr. Adams 'stead of making silly remarks."

"Don't be too hard on him, Mrs. Norton," says Adams kindly. "Pete ain't to blame that his eddecation was neglected. I feels nothin' but pity fur

the men who didn't risk their lives afore the flyin' Spanish bullets fur the sake of the women and children at home. They dunno what they missed."

"It's grand to be a hero," says Mrs. Norton; an' Adams smiled at her grateful, while the other two gritted their teeth an' looked fierce.

From what Paddy and Pete told me afterward, neither of 'em got much pleasure out of that trip. Mrs. Norton never got tired hearin' Adams brag of the dangers he had been in, an' not a red cent did the big chap spend comin' or goin'.

He said as how it hurt him to see the boys puttin' up fur everything, but that soon as he got the prize-money due him from the government, which was tied up because of some mistake in his discharge certificate, he'd charter a steam-launch for a whole day and take 'em all out in proper style.

It was easy to see that Adams had made a great impression on the widow, and next time Boyle and Fitz paid her a visit neither of 'em was much surprised to find him planted in the parlor. They sort of expected something of the kind. He did almost all the talking, and had Mrs. Norton sobbing over the fate of a Spanish girl at Havana who committed suicide because Adams didn't love her.

And so it went on for weeks. Most every time Fitz and his partner called at the house Adams was sure either to be there or show up later. At last they got sick of the game and decided that they'd ask Adams right out what his intentions were.

"It's plain as the nose on your face," says Fitz to Boyle, "that this big joker and his lies has got the woman going. If he wanted to marry her to-morrow morning it's my belief she'd jump at the chance. So what's the use of our wasting time and money? We'd better find out from him just what he means to do?"

They tackled Adams that same night and put it up to him blunt.

Wade was the most astonished guy you ever see.

"Me marry Mrs. Norton?" he bursts out. "Well, I should say nix. Sure, I admit I fooled around her some, but that don't mean nothin; it's a way we have in the navy."

"It's a way that don't do us no good," says Pete. "Why, afore you came I was aces with her; if it hadn't been for your butting in she'd have been Mrs. Boyle by this time."

Of course Fitz bristled up at this.

"You talk like a tin pan," he said. "If she changed her name at all it 'u'd be to a better one than Boyle. Fitzgerald 'u'd be the monniker. But that's neither here nor there. What we're getting at, Adams, is that your fooling ain't no fun for us. Why can't you do the decent thing—clear out and leave the lady her choice between us? We ain't never done you any harm."

"That's so, too," says Adams, careless like. "I suppose I'd better step away from her and stay away. I don't want to spoil you fellers' chances, an' it ain't hardly right to be triflin' with a woman's affections. Mebbe she has got to like me a lot; most of 'em do that I meet. Well, it happens that I got a steady job in the Rock Island yards this morning, and I'm due to start in to-morrow over on the South Side. You won't see me hanging round these corners much more, an' I'll cut the widow out altogether."

They see he was in earnest and went away feeling much relieved. With Adams out of the running each figured it wouldn't be long afore he could come to a definite understanding with the widow. The days passed by an' Adams didn't show up around any more. Fitz and Boyle called at the boarding-house every now and then, same as they used to, and were tickled to death at not seeing Wade Adams taking up the room of two men in the parlor and talking enough for six.

Mrs. Norton seldom mentioned him, beyond saying that she understood Mr.

Adams had a good job on the South Side. She wasn't in the least put out or grieved over his absence, which is sometimes the way with women. You can't gamble on what they really think where a guy is concerned. The one who looks like a sure winner often finishes as an also-ran.

Havin' a clear field, Paddy and Pete went at the love-making at top speed. It was a handicap for each because the other fellow was around; but the few minutes each snatched alone with her wasn't listed as lost time. Still, it wasn't what you could call altogether satisfactory, for Mrs. Norton seemed to be kind of playin' one against the other, balancing her favors so that neither could say he was drawing ahead.

Neither would agree to stand back and give the other chap right of way for a spell. Both had asked her to marry them, and she told each chap he must wait until her mind was made up.

This state of things couldn't go on forever, and the two ginks had got to such a stage of desperation that, though they still hung around together, they'd hardly speak and sulked like a pair of balky mules. At last I run into Wade Adams one night on the street.

"Just been takin' a stroll around the old corners," he says. "How's things with the gang, Bill? Did Fitz or Boyle land the widow yet?"

I told him there was nothin' much new in that quarter, and asked him if he had been to see Mrs. Norton. He said no; he had a nice girl over south, and never had cared much for the widow, anyway, but that Fitz an' Boyle were a proper pair of mutts to be carrying on the way they did. The words wasn't out of his mouth when along came the pair of them, both lookin' black and grouchy.

Adams shook hands with them.

"Bill here has been tellin' me you're both at the same old game and no further ahead than afore," says he. "Why don't you chaps get a little gumption and settle this thing for good and all. I'd have married a dozen dames in the time it's taken you two to begin capturin' one."

"Show us how, an' we'll do it quick enough—anyhow, I will," says Fitz.

"Me, too," chimes in Boyle. "I'm game to take any old chance."

"It's easy," says Adams. "Here's the angle. The widow likes both of you, but she can't marry both. One of you must take the siding. The only question is, which one?"

They both nodded.

"When a man' is in another chap's way and won't back up or side-track of his own accord, he's sometimes made to do it," went on Adams. "Now let me tell you something as I've learned from experience both at home and abroad. Women like men that show grit and ain't afraid to scrap for their rights. Get me? You remember how the widow warmed up to me because she knew I was a fighting man?"

"What's that got to do with me or Pete?" asks Paddy. "We can't either of us go and start a war."

"You don't need no war," says Adams—"not a public one, anyhow. But you can fight without joinin' the army or navy. What's the matter with a scrap between the two of you, the winner to have the sole privilege of sparking the widow, the loser to stand into clear and not go near her any more?"

"That there's a bum notion," says Boyle. "Suppose I fight Fitz and I happen to lose, I get nothin' but a lickin' an' he gets the widow."

"Pete's right," agrees Fitz. "If he walloped me, what 'u'd I get out of the deal?"

"That's easy to fix," says Adams. "I've heard you both tellin' about your bank-accounts. From what you each said, you must have close on a thousand plunks apiece put away."

"Not as much as that," said Fitz. "I'm about seven hundred strong."

"How much you got, Boyle?" asks Adams; and Pete admits he's there with five hundred."

"Good, steady savin' boys, both of you," says Adams. "You're a model for all switchies. Well, now, here's the proposition: Fight for the widow, leave the arranging of the scrap to me. You each put up two hundred dollars in Bill's hands as stake-holder; the winner takes the lady and the loser gets back his own coin and two hundred dollars besides to console him for his battering. You can't kick on that idea."

Fitz and Boyle were neither of them stuck on scrappin'. So far as I knew, they wasn't of the fightin' kind, and they was both rather small men. But as I said before, they was gettin' desperate, an' Adams's proposal seemed about the only way they could straighten things out.

After some more palaver, they agreed to meet Adams and me the next night and have the coin ready.

We met in Adams's room on the South Side. There was a table in the middle, and we sat down at it, while Adams provided some bottled refreshments and cigars.

"It's understood there's to be no hard feelin's when everything's finished," says Adams after a while. "Now, supposing you produce the mazuma an' we'll deliver it over to Bill with the instructions."

Fitz and Boyle each passed over four fifty-dollar bills and handed 'em to me. Adams got out a strong, medium-sized envelope and a paper where he had written that the loser of the scrap surrendered all claim to the widow's hand and was to get the money.

He had Fitz and Boyle sign it, and then me and him put down our names as witnesses.

He put the paper and bills into the envelope, gummed it up, and dropped some melted red sealing-wax on the flap. Then he took it over to the dressing-table and stamped the wax with his monogram from a big ring.

"Everything's set now," says he. "Put that envelope in your kick, Bill, and hold it for the loser."

I stowed it away safe, and we went on to arrange the fight. Adams had seen Bull Flaherty, who kept a billiard joint on West Madison Street, and Bull said he had no objection to allowin' them to scrap in his basement, provided that there wasn't a big crowd present. Wade Adams would referee, and eight-ounce gloves was to be used.

I said they ought to have some training. But Adams said no. He pointed out that they wasn't regular fightin' men and it 'u'd be an even break as to conditions; so we set the date for three nights later and let it go at that.

It was agreed nobody was to tip the widow off till it was all over, as she might want to interfere and spoil the game.

There was about a dozen chaps from the yard showed up in the basement the night of the battle. Fitz and Boyle was on hand, lookin' a bit nervous. The only thing that kept us from starting the fuss was the absence of the referee.

We waited a while, and then a messenger-boy came with a note from Adams. It said that he had been taken suddenly ill and was in bed under the doctor's care and couldn't come, but to go ahead with the scrap and select another referee. The boys picked me for the job and they went at it.

Now, neither Fitz nor Boyle had ever had a glove on in their lives, so the bout wasn't what you could call scientific. They pawed and pounded each other all around the ring, usin' the mitts like they was clubs. When they got in a clinch they wrestled and hugged until I got tired tryin' to break 'em, and let 'em fight it out in their own way.

Fitz got to butting with his head, and Boyle got even by kicking his shins. There wasn't no use calling fouls, that I could see, so they butted,

kicked, and clawed like a couple of soused longshoremen, and the end of each round ginerally found 'em both lyin' on the floor exchangin' wallops with their feet.

But if they was short on science, they was long on gameness, and they hammered, pulled, and beat each other up plenty for eight rounds. They was on the floor again at the call of time and was both dragged helpless to their corners.

When it was time to start off once more neither one could lift a leg. Paddy got off his chair and flopped over, while Pete fell beside him. Both was dead willin' to keep on, but there wasn't a punch left in 'em. So, as neither would admit he was licked, there was nothin' to do but call the fight a draw, which I did.

They was both in awful tempers.

"That's what I get for followin' that slob Adams's advice," says Fitz. "Both my lamps bunged up, every bone in me bruised, and we're just where we started from!"

"Same here," says Boyle. "Me nose is beat flat as a pancake, an' I won't be able to work for a week. Gimme my coin back, Bill; I allers knew this here scrappin' was a fool's game."

I bust the seal on the envelope and started to pull out the bills. And all that was in there was a few pieces of brown paper cut the size of greenbacks. When Adams got up and went to the dressing-table to get the sealing-wax he must have shifted envelopes, having another all fixed up to fool us.

You can figger what an awful holler they put up. They knowed I wasn't in on the deal, of course, but to hear 'em bawling me out you'd 'a' thought I was as big a swindler as Wade Adams. The two of 'em went to Flaherty, borried a gun, and started, all battered up as they were, to hunt for Adams.

When they got to his place they found the had given up his room, and the woman who run the house said he told her he was going East.

It was two weeks afore they had their mugs smoothed down enough to mix in society, and they went together to call on Mrs. Norton. The landlady opened the door.

"Is Mrs. Norton at home?" asks Fitz.

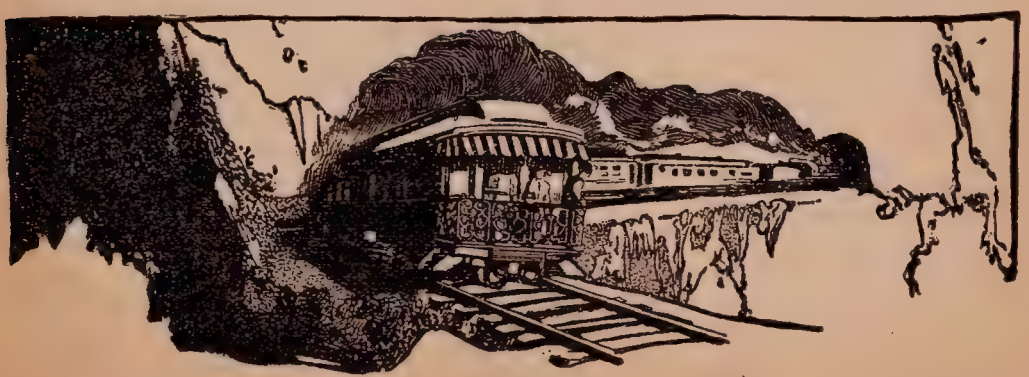
The landlady shook her head sort of mournful.

"Haven't you heard about her?" she says. "She's gone, Mr. Fitzgerald. We've lost her forever."

"What!" yells Boyle. "Lost her! Gone! Is—is—she dead?"

"Not dead; just married and gone East with that big sailor that used to call on her about every other night," said the landlady. "And I've lost the best boarder an' most regular pay I've had since I opened this shack."

The boys said nothin', but staggered down the steps. Wade Adams had done them proper—copped the widow and four hundred bucks, to say nothin' of my three plunks.



QUEER RAILROAD INVENTIONS.

Time and Money Wasted on Worthless Patents by a Host of Sincere But Mistaken "Near Inventors."

UTTERLY DISREGARD PRACTICABILITY.

Though Often Humorous in Their Extreme Eccentricity, the Failures of the Past Point a Lesson to Those Now Striving to Win Fame and Fortune by Creating Devices That Will Never Be Used Because of Their Futility.

BY CHARLES FREDERICK CARTER.

AILROADS might have been vastly different from what they are if their managements had maintained a more receptive attitude toward "near-inventors." Every detail of track, motive-power, and equipment has been the subject of profound thought by thousands of men who, without waiting to be asked, have spent money liberally for patents on weird devices which they offered vainly to unappreciative capitalists.

Instead of fortunes, all the near-inventors ever received was pert rebuffs from office-boys, frenzied editorial denunciation from trade papers, and a clause in the first constitution of the Master Car Builders' Association forbidding members to refer to any patented article in any paper, report, or discussion before that body.

Jolting, jarring, and jerking, now such conspicuous features of travel, might now be unknown if a certain series of inventions had been installed by the railroads of a former generation.

Beginning with the permanent way, Hiram Carpenter, of Rome, New York, away back in 1854, patented a system of construction in which rails or ties, or both—Hiram wasn't particular—were to be fastened to the tops of cast-iron posts fitted into iron cylinders set in the ground. In the lower part of the cylinders were rubber cushions on which the lower ends of the posts rested, thus "giving the elasticity suitable for easy traveling," to quote the inventor's own words.

However, if this did not afford sufficient resilience, the railroad folk had their pick and choice of two different elastic rails. One of these was the brain child of Rufus S. Sanborn, of Rockford, Illinois, who was granted a patent, in 1871, on an elastic rail the cross section of which somewhat resembled a distorted figure 8.

It was hollow, the upper part being cylindrical, the lower part being flattened into a triangle at the bottom. It was four inches high and four inches wide at the base. A forty-pound rail of this design was as strong as a sixty-pound rail of the usual type, Mr. Sanborn claimed.

He also explained that his invention was "designed to give the rail that degree of elasticity which will enable it to bear all the pressure and shocks to which it may be subjected with the least possible amount of wear and tear to itself and the rolling stock which passes over it." With the Sanborn rail on the Carpenter superstructure where would your pneumatic tires be?

Those who did not like this style of rail could use the vibratory rail patented by S. A. Beers, of Brooklyn, and actually tried out on the Hudson River Railroad before the consolidation. Beers had observed that any form of rail had three elements of strength: "vertical, lateral, and torsional."

The ordinary T-rail used only the vertical element; so to correct this deficiency Beers devised a rail the cross-section of which looked like a letter S, giving what he described as a "compound, lateral spring."

He figured that his rail in any given weight was thirty per cent stronger than a T-rail of the same weight. Railroad builders saved twenty per cent in cost while obtaining an important increase in strength.

Even with all this elasticity a stray jolt might sneak in, so G. C. Beecher, of Livonia, New York, in 1870, patented a car-wheel in three parts—a hub, a web, and a plate to which the hub was bolted.

Rubber Buffer Around Axle.

Possibly the wheel may have had a rim, though Beecher did not mention this minor detail. The feature was a ring of rubber an inch thick and three inches wide inserted between the axle and the hub.

A sudden blow on the web was communicated to the rubber ring which took it up, tamed it, and passed it gently on to the axle.

The wheel was cheaper and safer because it was less liable to break. It was also more comfortable for the passenger because it reduced jarring to a minimum, so that one could read without danger to the eyes while riding at high speed. In rounding curves the oscillation was scarcely noticeable and noise was deadened, thus affording an opportunity for conversation without the usual unpleasant effort.

Only one thing was now lacking—a rubber motor. In the very same year Solomon Jones and Benjamin Terfloth, of New Orleans, came to the rescue with a motor consisting of a master-wheel on which was wound one hundred and twenty-five feet of rubber rope two and a half inches in diameter.

Three Hundred Miles an Hour.

All one had to do was to stretch this rubber rope by winding it up on the master-wheel—a feat which could be performed while running—and then, by means of a train of cog-wheels beneath the motorlike clockwork, away you went!

A railroad built and equipped according to the specifications in the foregoing should have been able to overcome a new peril in railroading discovered by the German newspapers in 1870. This was the tendency of the rotary motion of the earth to throw a train off on the east side of a track running north and south. At least the trains would press more heavily against the east rails, and you never could tell what might happen.

Thanks to the foresight of Providence in arranging this continent so that you must travel east and west in crossing it, instead of north and south, this peril is avoided by transcontinental trains. Otherwise, if the type of railroad advocated by Judge Meigs (address not given) in a paper

he prepared in 1854 had been built, the centrifugal peril might have been serious.

The judge wanted a railroad built on a mathematically straight line across the continent and walled in to keep trespassers off. On such a road with wide-gage track and a locomotive with drivers fifteen feet in diameter, one could travel three hundred miles an hour, thus making the journey from New York to San Francisco in ten hours.

No Curves on His Road.

Judge Meigs's straight railroad would have done away with a feature of construction that caused inventors a lot of worry—curves. It was easy to run trains on a straight, level road; any one could see that. But when you introduced curves and grades, trouble began.

One of the most venerable and highly esteemed of railroad witticisms concerns the road that was so crooked that the box cars had joints in the middle to get around the curves. Well, Wendell Wright, of New York City, actually patented such a car in 1854. To quote Mr. Wright, "car bodies made flexible by dividing them into sections; the joints being covered by elastic material, thus allowing longer cars and insuring greater safety and steadiness."

Wright was not left to grapple with this problem alone. One of the most persistent of railroad fallacies was that some special means had to be provided to allow car-wheels to travel at different speeds in rounding curves.

Incredible as it may seem, no fewer than one hundred and four patents were granted on compound axles up to 1872, and a number of them had been tried out on different roads.

The typical compound axle was cut in two in the middle and held together by a sleeve, so that each half could revolve independently of the other half. Another way of getting around this imaginary difficulty was to leave the wheels loose on the axle. A score of different schemes of this sort were patented and some of them were tried out in service. Naturally, they introduced an element of danger instead of safety.

Up the Grade by Wire.

After the curve difficulty was disposed of the next problem was to get up hill. Inventors of a hundred years ago might have been excused for worrying about adhesion problems, but it is a little surprising to find H. C. Walters, as late as 1876, patenting a locomotive that was specially arranged for climbing hills. A wire rope was to run from one end of the track to the other, being made fast at each end. Beneath the locomotive was a drum. The idea was to take two or three turns with the wire rope around this drum, start winding—and up you went!

Speaking of ropes, after the Revere Beach disaster in Massachusetts, in 1871, some genius whose name has not been preserved proposed that all passenger-trains should tow a hand-car with red flags and lanterns and all the paraphernalia for stopping following trains.

When the train stopped the flagman was to jump aboard this hand-car and pump his way back to the proper number of telegraph-poles where he could flag to beat the band until his train was ready to go.

Hauling in the Hind Shack.

The tow-rope was to be permanently attached to the hand-car, and the spare rope was to be wound up on a drum on the rear of the train. When the engineer wanted to recall the flagman, instead of wasting steam and time blowing five blasts, he just pressed a button that started the drum to winding.

He could thus snake the flagman right in whether he wanted to come or not. Meanwhile he could be get-

ting under way, and the hand-car would have to travel the speed of the moving train plus the speed of the winding drum. Altogether a flagman could count on getting a run for his money.

Safety has ever been the inventor's long suit. Having observed that it was the locomotive that was always getting into trouble and then dragging innocent cars after it to their own destruction, inventors devoted themselves with great assiduity to rescuing cars hovering on the brink of ruin.

Various schemes were patented in early days to enable the conductor to pull the pin on the engine whenever the former betrayed symptoms of going into the ditch. The most elaborate of all was that patented by W. O. George, of Richmond, Virginia, in 1856.

Mr. George explained that loss of life and destruction of much property might have been prevented if suitable means had been provided for detaching cars from one another when in rapid motion. Accidents were from various causes such as breaking wheels, the engine being thrown from the track, cattle or other track obstructions, and so on.

Hogger Pulled the Trigger.

To avoid all this he got up a most elaborate combination of levers, rods, chains, springs, and triggers. The essential feature was a rod extending under the car and sticking out at each end with a big knob on both ends.

When the engineer realized that there was going to be a wreck, he turned a lever which pulled a trigger held back by a spring which released some more levers which gave the rod a yank which pulled a combination of chains and dinguses which uncoupled the head car from the engine.

Next the rear knob on the head car gave the front knob on the second car an uppercut. This blow started a series of similar events on that car which passed it along to the next.

Thus, while the engine was lying on its back in the ditch, kicking its heels in the air, the cars rolled by one at a time in perfect safety.

One of the most industrious inventors of forty years ago was W. M. K. Thornton, of Rolla, Missouri. Mr. Thornton's specialty was the comfort of the passenger.

One of his patents was for a "petticoat" for coaches to keep the dust out! The petticoat consisted of a continuous platform suspended underneath the cars just above the rail with flaps outside the wheels. This was supposed to confine the dust to the track until the train was safely out of the way.

Gaudy Flannel Ventilator.

Another of Mr. Thornton's improvements was a window protector. It was a brass Venetian blind, eight inches wide and a little longer than the window was high, and set at an angle leaning back at the outer side and upper end.

The blind was to have a loose flannel cover "so as to fill and divert the current of air which the motion of the train produces," as the inventor said.

The flannel was to be of picturesque colors, which would give the train a gay and festive appearance.

Still another of Thornton's inventions for the comfort of the passenger was a spark arrester. No one could deny that it possessed the merit of novelty. No attempt to arrest the sparks was made until they attempted to escape. Then they were nabbed.

The arrester consisted of a rectangular tube which hovered over the top of the smoke-stack and inclined downward and backward to a box on top of the boiler. Instead of escaping to the atmosphere the smoke was supposed to be lured into the square flue which was half filled with vanes that were supposed to so discourage the sparks that they would fall, lifeless, into the box, leaving the purified

smoke to scoot up a little pipe leading out of the top of the box.

Fitted Any Old Gage.

In early days, when railroads were of a dozen different gages, interchange bothered both traffic officials and inventors. Many were the schemes patented to allow cars of one gage to run on a road of another gage. One actually tried out on the Erie was a groove cut an inch and a half wide and five-eighths of an inch deep full length of the axle. It might be supposed that this would weaken the axle; but, no. The inventor claimed that it actually strengthened the axle. In this groove was placed a "feather" of steel in which were notches corresponding to all the various gages.

To change from the six-foot gage of the Erie to a narrower road all you had to do was to run the car over a gradually contracting track, which pushed the wheels from notch to notch on the feather till they struck the right width—and there you were!

R. H. Ramsey, of Coburg, Canada, patented another scheme, in 1876, to accomplish the same purpose. Ramsey's scheme was the more expensive because it called for trucks of each gage for each car. When one wanted to change he ran the car over a pit, suspended the body on beams run under it, and, resting on trucks at each side, dropped the car truck off and ran the body to the other end of the pit onto trucks of the next gage.

Blew Snow Off Track.

Everybody knows that snow causes railroads a lot of trouble. George P. Floyd, of Boston, noticed it in 1870. He evolved a neat little device that solved this difficulty. It consisted of a steam pipe with a mouthpiece of "peculiar shape" over the rail. On opening a valve a jet of steam spurted out of the mouthpiece and blew off all the sand, dust, and snow "not removed by the pilot."

Another pipe behind the drivers squirted a jet of hot water—not steam, just plain water—on the rail to wash off the sand used by the engineer. It also lubricated the rail, "thereby facilitating the passage of the train."

This scheme actually was tried out on the Iowa division of the Chicago and Northwestern for six months and was "highly approved."

In the hill-climbing test, an engine took thirteen loads up a grade of one hundred and two feet to the mile. Then it returned and took up fourteen loads by using Mr. Floyd's lubricator.

Any snow that the pilot and the peculiar-shaped mouthpiece could not get rid of was readily removed by a snow-plow invented, in 1870, by Thomas L. Shaw, of Omaha.

Mr. Shaw lived in the blizzard belt, so he was in a position to appreciate the attractiveness of a machine that would do all the hard work in snow-bucking.

Aimed Plow at Drifts.

His snow-plow consisted of a platform mounted on a four-wheeled truck to be coupled on to the front of the locomotive. It was hinged at the front end so that it could be tilted up at an angle, thus bringing the lower edge near the rails. It was split down the center, lengthwise. At the rear was an open platform with a lot of levers and cranks. Here the operator stood.

To operate it the locomotive made a run at a drift while the operator worked his levers and cranks to aim the plow at the drift. If he was still alive after they struck, he was supposed to wind it up again to bring the platform to the horizontal, after which the engine backed out—if it could get out—to the open country.

Then the operator did some more winding, which lifted up the two leaves of the plow platform vertically and dumped the load of snow on either side of the track. Then they went back for another shovelful, just as

you have seen a man carry a shovel of dirt he was too lazy to throw.

Derailments were of frequent occurrence in the seventies. Emery and Dayden, Yankee inventors, combined their resources, in 1872, to figure out a way to beat the derailment nuisance. Their device was tried on the Eastern Railroad, of Massachusetts, in 1874.

Used Solid Blocks of Sand.

It consisted of a longitudinal plate of iron beneath the truck and just above the rails. This plate had flanges on each side that straddled the rails. If the wheels went off the rail the truck dropped down on the plate which then rested on the rails along which it slid till the car came to a standstill.

L. O. Root, of Minneapolis, Minnesota, invented a similar device, but neither came into universal use.

It took an Englishman, however, to get up something really original. It was a locomotive—the heaviest in existence when it was built, in 1866, for it weighed eighty-two tons. It had two distinct fire-boxes set end to end in the middle of the contraption with two sets of flues, one running forward, the other aft. It had four cylinders and twelve drivers.

But the pet device was the sanding apparatus. For reasons not explained the sand had to be compressed into solid blocks for use. When the engineer wanted sand he started a set of ratchets and cogs which, in turn, operated a saw which ground sand.

"The sand was thus gradually disintegrated and the triturated particles subsequently applied to the tires of the wheels by an apparatus resembling the inking rollers of a printing machine," to quote a contemporary description.

The gold-medal winner among railroad inventions for all time was the plan of A. Mottier, of Paris, for a railroad across the English Channel—not *under* the Channel, but *over* it—and it wasn't to be a bridge. M. Mottier gave his great idea to an admiring world in 1876.

The route was to be between Sangatte and Deal, where the bottom of the Channel is comparatively level and not more than one hundred and thirty feet deep. Here a causeway of stone was to be laid on the bottom thirty-three feet high and thirteen feet wide on top. As the top would be practically a hundred feet below the surface the causeway would never interfere with navigation—no matter how much larger they would build ships.

M. Mottier did not explain how the causeway was to be laid at such a depth, but that is a minor detail. Anyway, the top was to be sufficiently smooth and level for a truck to run over. The truck was to be a pontoon mounted on wheels eighty feet in diameter. Above the pontoon was to rise on a framework to a height of thirty feet above the water. Here was to be a platform large enough to hold an entire train as well as the engine that was to propel the whole outfit.

A chain was to be laid on top of the causeway from one side to the other. The engine on the traveling platform was to drive a big drum over which the chain passed, so that the traveling bridge could snake itself back and forth across the channel.

The whole thing would only cost $2,400,000. As the traveler could make twenty trips a day at four hundred dollars a trip it would earn $16,000 a day and prove a profitable venture!

Semaphores do not argue. They command in terms that must not be disregarded.

Seizing the Circus Train.

BY BENJAMIN ROMERO,

Author of "Frickson's Flight to the Border," and "The Long Grade."

The Lion Is Duly Lionized and the Snakes Put the Rebel Invaders to Rout.

"LITTLE snakes are t' be seen an' not heard," Ted Prang announced gravely, settling down by the stove. He was cryptically reminiscent, as usual.

"Which is true as th' proverb, especially in them wards in hospitals sacred t' th' mem'ry o' old King D. T.," rejoined John Dane, boss wiper. "But why th' lecture on optical population?"

"Yes, sir," continued the fireman, "th' above is not only a famous proverb of Benjamin Franklin, but I once learned it was true. I'd got into a bad hole, an' if it hadn't been f'r a party named Spilotes Corais happenin' along, it'd have been me for th' pale face an' th' silver handles."

"Jim Larson says his superheater's melted out his cylinder packin', Tonner wants all his flues worked, an' Jim Broyles is howlin' about the Babbitt bein' melted out o' his left drivin' box; but I'll have t' listen t' you first for th' sake o' peace," said Davis, roundhouse foreman. "I'll bite. What's snakes got t' do with this here party, Spilotes Corais? Go ahead. One, two, three!"

"I'm handin' out a family o' incidents directly related to th' scrappin' the Mexicans is pullin' off to th' south of us," Fred obliged. "It all happened after we landed in Chihuahua, havin' escaped th' lady bandit.

"First thing we done was t' send our little thousand dollars back t' my private bank in Arkansas, an' then we went out trailin' what is familiarly known t' some as a soft snap.

"United Statesers was leavin' th' country fast, so we got a job quick, pullin' extra out o' Monterey. An' a week later found us hammerin' th' rail-joints out o' that place, in th' State o' Neuvo Leon.

"Pretty lonesome country it is, when you don't see a white skin more 'n once a day; an' so, when a circus hits town an' shows f'r a week, me an' Fred near falls over ourselves t' buy tickets for th' first performance.

"It was a mighty small affair, but it had the best collection o' well-behaved snakes I ever saw, 's well 's a lion that was a brother t' Samuel Satan fer meanness. Th' snakes was all these here racers, th' blue-black fellers y' see sometimes."

"Yes—sometimes," commented Davis. "Quite frequent when y'r water-glass shows three-fourths booze."

"And they seemed t' be led by a particular big one," related Ted, unmindful, "th't looked like he was walkin' on his tail instead o' wigglin'. Besides, he'd walk a chalk-line, an' y' c'n believe that 'r not. He was sure a beauty, with his big scales turnin' blue an' black there in th' lantern-light.

"The snake-charmer was a girl,

that gave him orders for th' other snakes, an' seemed t' have him right under her control. An' after th' snake show, this same girl gave a exhibition in th' big lion's cage. She wore a *rurale's* uniform in this act, an' it made a great hit with th' loyal patriots.

"I kind o' took a shine t' that little girl; but you know how it is—'out o' sight, some other kind,' or some such sayin'; an' I forgot all about th' whole outfit f'r a few days.

"Reportin' at th' engine one night, when I'd signed th' call-book f'r eleven o'clock, I found we was billed t' pull th' circus over our division, th' show bein' on its way t' show in Laredo.

"Th' twelve cars was just ready t' roll when orders come t' wheel in a special car o' somebody's, as they wasn't any tellin' when we c'd get another train through, th' rebels bein' pretty close, an' talkin' some boastful about takin' th' town.

"We'd just included th' special car when a nutty-skinned guy in a broad sombrero an' tight pants comes moochin' up on a big bronc an' slips our conductor a note, departin' without sayin' a word.

"It was a letter from El Gallo, the rebel general, tellin' us that if we moved any more trains over that division he'd blow up every bridge on it.

"Our Mex conductor gets in touch with headquarters, an' was told that 'f he c'd git a crew t' operate th' train t' go ahead.

"Th' guy th't had th' special car now come int' th' game, an' when he heard about th' rebel's message he cussed some copious. He was a little man, square-jawed an' talkin' with a slight French accent. He was some anxious t' get t' th' United States an' git there quick; an' he waves his arms like a windmill while he was tellin' us about his hurry.

"He diverts a couple o' bills by my route, an' I gets brave.

"'Come on,' I says, puttin' away a new fiver, 'let's pull out anyway. Maybe they ain't any bridges on this division, so what can they blow up? This here gent wants t' git home, an' I move we take 'im.'

"An' ten minutes later we're creasin' th' wind f'r home.

"We done all right f'r some time, findin' all th' little bridges still alive. Crossin' th' river near Salinas safe, about three in th' mornin', we had a little session of bravery. Fred gives our old crow a throttle-juice toddy an' she flaps her wings.

"We'd got, I guess, half-way to Palo Blanco, when a gent in white pants an' a black shirt makes himself visible on th' track ahead. He's wavin' a big yellow flag, an' looks like he wants t' gossip.

"Th' rules an' regulations don't provide what t' do in case of a yellow flag bein' waved across th' track, so we tries t' sidle by.

"He steps from th' track, aims a pistol, an' lets out a yell. I ducks down t' avoid th' projectile about t' leave his hand artillery, an' when I look out agin there's a hundred an' fifty Mex swarmin' across th' track in front of us, all shoutin' curses an' wavin' guns.

"Not seein' a policeman near t' help him, Fred stops his engine an' steps out.

"'See, gents, what a nice, pretty train I've brought you,' says he. 'An' it's all yours. I thought you'd like it. Don't mention it,' an' he heads f'r Salinas, on foot.

"'Stay!' orders the guy in th' white pants, puttin' a hand on Fred's shoulder. An' bein' a good child, he stays.

"Well, sir, they took all that was loose in th' baggage-car, an' sniffed suspicious around th' rest of th' train. They got out a lot o' th' costumes an' played hob in general. An' while th' men was amusin' themselves, ol' Whitepants is holdin' a powwow with his officers.

"Finally they comes t' Fred an' me, an' points t' th' train.

"'That,' says one of 'em, 'you weel drive us on with. Stop when we say so!'

"'Yes, sir,' says Fred.

"Then th' bunch swarms up on top o' them cars, an' under an' around 'em likewise. An' with th' captain's understudy in th' cab, we sways ahead.

"When we'd gone about twenty miles an' come t' a siding, he grunts, an' we shelves th' train on that track.

"Th' siding goes back into th' woods, an' we can't see th' other end. When we'd traveled its length we found a rebel army camp in full swing there. A short distance away two poles is crossed, formin' a 'V' some six foot high, an' at th' peak o' this is the red flag.

"Here th' soldiers unload, but th' common circus hands is told t' remain where they are, an' a guard's thrown around 'em.

"Th' captain takes into camp th' guy that was in such a hurry t' get across th' border, the noble engine crew—bein' us—an' the girl that charms snakes. There he gives us men a little tent, an' shoves th' girl in a smaller one.

"'Fred,' says I, 'what's th' meanin' o' all this mystery? C'n you put me wise t' anything I don't know?'

"'I think not,' says poor Fred, an' I c'n see he's down in th' chewin' machinery. 'It's too much f'r me,' says he. 'They capture these trains, get all they c'n turn int' money, and then burn th' rest.'

"'It's likely this circus train's worth a good deal,' I agrees.

"'Gentlemen, zey know not zat zis train is of circus equipment consisted,' butts in Frenchy. 'Zis delay is veree unfortunate.'

"'If that's all th' contribution you c'n make t' gettin' us all out o' this, Froglegs,' I rebukes him, 'you better keep still while me an' my pard here gets our brains t' workin'.'

"He looks around cautious.

"'I,' he says, 'am ze inventor of ze mos' powerful, mos' wonderful powder in ze worl'. An ounce in ze river-bottom, and, pouf! ze bridge is fall like rain from ze sky! A little bit on your track, an' ze engine is scrap.'

"'We got enough scrap now,' I corrects him. 'You got any o' this powder with yer?'

"'No,' he answers, 'I have only ze formula. I fear to travel wis ze stuff.'

"'You don't look t' me like no Mr. Du Pont,' I says.

"'Pardong,' he comes back, 'you are correct. I have not had ze pleasaire. I am Bellaire Bremont.' An' he hands us each a piece o' hand-painted linen that says th' same thing.

"We tells him the names that's been inflicted on us, an' all hands turns in.

"I woke with th' Frenchman shakin' me by th' collar-bone. 'Wake up! Wake up!' he was sayin'. 'Some one have entered and stolen my formula!'

"'Well,' I growled, 'you wake up, if it's your formula. Where did you have it, anyhow?'

"'I place it under my pillow,' he moans, wringin' his hands. 'And now it is stolen!'

"Just then we hears a roar an' a squeal, an' we run out t' see what was up. Th' roarin' kept up f'r a while, an' we traced it t' one of th' cars in th' train.

"A Mex had forced th' door an' rammed his hand under th' canvas cover o' th' lion's cage t' feel what was in it. An' if he didn't find out exactly, he knew it had claws.

"Th' big lion simply took one swipe at him an' lopped his arm nearly off. He was roarin' an' rampin' about like he'd take th' big bear right out o' th' Milky Way.

"Th' captain saunters up t' investigate, an' him an' some o' th' officers

have a council o' what for. When they got through they headed f'r th' tent o' th' lady snake-charmer.

"A bit later there's a big bulletin posted that says th' 'Montevido Gran Circo' 'll give daily performances in camp, admission one dollar. As all them soldiers has money which they've filched from th' ranchers near by, I c'n see where somebody's goin' t' get some o' this here unearned increment.

"Th' tents is set up, an' in a little while th' show's showin' an' all the soldiers on hand. Th' big lion's cage occupies th' center of th' menagerie.

"We joined th' rubberneck squad that was goin' through th' show, an' finally come up in front of th' lion's den, which has a door on each side.

"While we're standin' there th' captain takes a walk around t' th' side where we are. Th' minute our French citizen grabs sight of him a light comes into his eyes that a fightin' man loves t' see, an' I know we're billed f'r trouble.

"'You may steal ze formula for ze time,' says Frenchy, as calm as a well-oiled bearing, 'but it is worthless, as I have ze most important ingredient in France. Wizout my secret compound you cannot make explosive from my formula.'

"'*Está muy loco este señor,*' th' captain grunts, which means, 'This gentleman's crazy.'

That gets Frenchy's goat.

"With a scream he buckles into th' captain, tearin' th' coat nearly off him. An' when he comes away he's clutchin' a bunch o' papers in his hand, an' yellin', 'I knew you had them!'

"He staggers back against th' lion's cage door, an' as he hits it th' captain's fist goes up. It don't hit Frenchy, but pulls a bolt at th' top, an' Frenchy tumbles backward into th' society o' th' lion!

"His eyes poppin' out like buds on a tree, he does th' Daniel tango over to th' opposite side, an' there he stands a second, pantin'.

"Mr. Lion jumps back glarin', some surprised himself. There's a shout, an' in a jiffy men are crowded seventeen deep around th' cage.

"Once I seen a bull an' a tiger put in a cage an' made t' fight to a finish in Torreon, an' I knew nobody'd try t' help this guy out now, because it 'd likely be a good fight while it lasted.

"By th' time conscience had visited th' hearts of these men, poor Frenchy would be about half digested.

"Just then there's a commotion at th' outside o' th' ring, an' I hears a woman cry, 'Brutes! Cowards!' An' in through th' bunch comes th' girl that was th' principal actorine in th' show. She was layin' around her with a spike she'd picked up, an' her use o' that thing allowed her t' travel fast through the lines.

"The lion decided what's goin' on. With his eyes glistenin' an' his body saggin' in th' middle, he's all fixed f'r one pounce. Th' man's waitin' f'r him with a little joke of a knife, when th' girl makes her entrance.

"Did you ever see a real lion-tamer in action—when a slip had been made, or somethin' had gone wrong, an' only quick work could save a bone-crunchin'? Well, I did then, but you'd have thought th' girl had all day.

"She takes th' bars of th' cage in her hand an' whistles a long, low note. Then she calls out easy like, 'Toby!'

"Toby only trembles, but don't take his eyes off that piece o' French fried he's figured on.

"Then she shakes th' bars an' stamps her foot. 'Toby!' she storms, 'do you hear? Look!'

"She holds up a piece of string, an' calls that shaggy brute a ream of pet names.

"He turns f'r just a second, an' she looks him square in th' eyes, while her face turns to stone.

"Gents, th' look in them eyes would have scared a railroad president. There was something wild an' threatenin' in 'em, an' yet somethin' appeal-

in' an' tender. An' th' combination worked.

"Toby jumps t' his hind legs, an' makes f'r her an' her string. She throws it to him an' he catches it an' pulls her to him, lickin' her face as gentle as a pup.

"She takes both paws of his an' holds 'em up for th' lion t' go up on his perch right overhead. An', still lookin' Toby in th' green lamps, she says, like it was orders t' him:

"'Push th' bolt at th' top left hand side o' th' door.'

"Scared t' death, Frenchy hits th' bolt an awful wallop, an' falls out o' th' cage quicker'n he fell in.

"Somehow th' racket broke th' spell. Toby made one lunge f'r th' open door, but it was closed with a bang before he got there. He let out an awful roar, an' fell t' pacin' th' deck.

"Th' young lady falls back limp. 'I'll never dare enter his cage again,' says she. 'He'll never trust me again after this.'

"Th' excitement died as quick as it started. In a while we persuaded Frenchy it ain't his duty t' carve out th' captain's gizzard an' graft it onto his spleen.

"'If you gents has any manners,' I suggests, 'lets go call on th' girl next door, an' pay her our respects f'r th' delicate life which she's preserved f'r little ol' gay Paree.'

"'Miss,' says Fred, when we'd all filed into her tent, 'we just come t' take off our cachuchas t' you as th' gamest little woman that ever lionized a lion, or bearded one either. My friend, Mr. Bremont here, that owes his life to you says he hopes you'll collect soon, an'—them's our sentiments,' says he, like an alderman layin' a corner-stone f'r th' orphans' home.

"'I'm glad you liked th' show,' she smiles, like she'd only pulled off her regular performance. 'But the rescue was nothing. Lion-taming is my business.'

"'You mind your own business fine,' I adds. I was kind o' hypnotized, she was such a beauty. As she sat there in that dusky tent, her eyes was like water you see shinin' coollike in a grove o' trees, an' her jet hair was like a black night wove into spiders' webs. Well, what if that is poetic, huh? But, excuse me; as I was sayin'—

"'Every minute we spend in camp we are threatened with death,' says th' girl. 'Especially now that the officer has taken a violent dislike to Mr. Bremont.'

"Then we settled down to a old-fashioned how-to-get-out-of-here meeting, discussin' ways an' machines for two—three hours.

"'I notice,' says Fred, 'that they haven't let our engine die, but keep her hot all th' time. It looks like they're plannin' an expedition.'

"'To escape,' says Frenchy, 'we have only ze one problem to consider: how for to stampede ze soldiers. If we could only get zem out of our way for a half-hour, we could board our train and go. Once on board, nozzing could overtake us. But—'

"'But you ain't got no sense if you think it can be done,' I says some acrimonious. 'Not unless we turn Toby loose.'

"'We wouldn't dare,' says th' girl. 'Toby no longer trusts me, and he would harm us as much as any one else.'

"Somehow we all give up suggestin'. Th' Frenchman goes t' braggin' how he took his formula away from th' captain, an' we listened, f'r politeness.

"Pretty soon there's a bunch o' yells comes fr'm th' other end o' camp, an' a lot o' noise I know's bein' put on th' market for singin'.

"'I believe,' says th' girl, 'that I've got an idea.'

"As we was shakin' hands all around, she says t' th' Frenchman, 'Won't you stay a few moments an' explain to me about your invention,

Mr. Belmont?' One little smile did th' business, an' me an' Fred retired without him.

"He comes in our igloo an hour later, an' seems cheerful. A little afterward him an' Fred folds their eyes for a sleep, while I takes th' first watch.

"Nothin' happened, except that ever'body from captain down t' cook takes on a full tank an' an auxiliary reservoir of mescal mixed with raw, eat-'em-alive whisky. Th' noise was somethin' fierce when I called Fred an' rolled in.

"When Fred an' me woke up it was broad daylight. Th' French inventor was gone! Th' soldiers, still a little groggy, was layin' around in little groups, playin' cards an' talkin'.

"'I guess,' says Fred, pointin' t' Frenchy's empty place, 'that he's like his powder—he's gone off. Funny he didn't make a rumpus. Wow! What's that smell?'

"There was th' strongest smell in th' air that I ever got acquainted with. It fair made your nostrils burn.

"Fred pulls back th' flap. 'Look here!' he hollers, an' I'm at his shoulder in a jiffy.

"Bearin' down on our wigwam is a crowd that looks t' me as big as th' entire population of China, an' they're armed, an' loaded with sticks, as well. I see right then there's goin' t' be two vacant places on th' seniority list.

"'Kid,' says Fred, his face bleachin' out some, 'if you ain't never been burned at th' stake, you're in for a new experience. As for me! What—'

"Th' crowd's seen it, too; an' with their mouths hangin' open like mouse traps out of jobs, they was gawkin' at them two poles on which is mounted th' rebel flag.

"An' at th' peak o' them poles is a giant serpent, snake, or whatever it's called. His tail's wrapped around th' flag staff. He seems t' be standin' straight up—six feet o' some snake. Under him on th' ground is millions more o' th' devils, all wigglin' an' wrigglin' an' waitin' for him t' come down.

Which he does, *pronto;* an' seemin' t' walk on his hind legs, which, of course he ain't got any, he leads th' whole outfit toward camp. An'—you old scoffers, you—I swear by my swastika, every snake was smilin' like he was expectin' something pleasant; like he was about t' open a can o' fresh poison.

"One *soldado* lets out a yell an' shoots. Another yells an' scoots. An' then they all takes t' boots an' spraddles—for th' safety afforded by distance. If th' bullet fired by that one man would make a snake act like he was hurt, it might have been different. But as they all continued t' make their little three—four miles per, most of our captors is convinced that th' big jag has presented 'em with a world full o' snakes, an' acts accordin'.

"There's a bugle call, clear an' quick. A *rurale* busts out o' th' woods, yellin' *'Viva!'* to th' tune of a big crashin' o' timber behind him; an' I guess th' whole army's come up.

"A few rebels that had stayed t' face out them snakes, seein' th' *rurale,* took matters in their own feet an' begun t' do some rapid knee work, while them already movin' covered th' ground a little faster. In a minute, flat, there's not a rebel in sight; they havin' all got safe behind a little hill five hundred yards away.

"Th' *rurale* captain points t' our engine an' yells, 'Run!'

"An' we did, beatin' th' first snake to it by about two fangs. Fred gives her a consignment o' fresh fog, an' she grinds into action.

"A little further on, th' *rurale* boards us, an' with him is th' girl o' th' show with a big snake in her arms. An' as I looked at th' *rurale,* I seen it was our Frenchman.

"'How did you get here?' I gasps.

"'When I said I had an idea last night,' says she laughin', 'I meant it.

I thought if those men drank all night it wouldn't take many snakes to frighten them so they'd run. I had Billy—his other name's too long for me—put on that old *rurale* uniform, knowin' that if they seen snakes an' *rurales* in th' same minute they couldn't be stopped by a mountain of mud. And I was right. They're running yet. As Billy here would put it, "Ze problem eet ees solve. We have stampeded ze camp.'"

"'You'll have t' explain t' me,' demands Fred, what made them snakes follow your big friend there into camp.'

"'Ah,' she said, 'that's a new invention o' mine! It's a certain compound that a snake would follow through a plate-glass window. I use it t' make my snakes walk that chalk line in th' show. I trailed the stuff from camp to the woods, an' up that pole. Then I put Spilotes Corais—that's his Latin name, but I just call him "Spy," on that scent, an' put th' others behind him. They'd follow that smell an' old Spy any place. I'm sorry to lose them, but I've still got Spilotes. You know the rest—all except that we want you to speed up as me and Billy will be married at th' first station.'

"An' when we got t' Villalduma th' preacher that tied th' knot said I made th' handsomest best man he ever saw."

"Señor Ted Prang," said Joe Peers, putting his hand on his watch, "you are some Ananias!"

WHEN THE LOCOMOTIVES MEET.

Famous "Hogs," "Oil Burners," and "Old Girls" Hold a Roundhouse Convention to Revive the Pioneer Days.

BY F. B. VOGEL.

THROUGHOUT the United States and even in Canada once upon a time there were strange commotion and peculiar actions that seized locomotives, and resulted in the locomotives leaving their own roundhouses and hieing forth to a convention in a vast roundhouse in a locality which it were wise, for more reasons than one, not to disclose.

It is sufficient to state that the convention lasted several days, to say nothing of the time consumed by the engines unattended by engineer or fireman in going to and returning from the convention. Not a single human attended this most unique of all conventions.

Some of the engines attended only in spirit simply because they had long before ceased to exist, some having blown up or been wrecked, and having gone to the scrap-heap. There were locomotives of all types past and present for fast and accommodation passenger, as well as for fast and for freight service.

Among the mighty horde was the famous speed queen 999 with the record of 112½ miles an hour in a run over a regular division and on a

regular schedule pulling the New York Central's Empire State Express. Her engineer, Charles H. Hogan, was of course very proud of her speed achievements; and often when accosted by admiring passengers and others as to her speediness and graceful appearance, would retort, with a merry twinkle: "Yes, she is a little fast, I admit; but she's a perfect lady, all the same!"

Likewise present was the Philadelphia and Reading marvel that made a 4.8 mile dash in July, 1904, in two minutes and thirty seconds, equivalent to 115.20 miles an hour.

As proud as any of the rest, but small in dimension compared, were several compressed-air locomotives, which daily haul for Uncle Sam tons of smokeless powder and thousands of loaded shells for the battle-ships of his Atlantic fleet. Likewise was the locomotive, fireless, coalless, smokeless, and cinderless, innocent alike of electric or gasoline power, and which requires in preparation for operation the filling of the engine's tank about half full of water, followed by steam from a stationary boiler-plant.

Among the renegade speeders were also many mighty Mallet articulated compound engines, some of them, from pilot to rear of tender, not less than 121 feet in length and at least 810,000 pounds in weight.

I digress a moment to state that the Baldwin Locomotive Works have designed and built for the Erie Railroad a Mallet compound locomotive with three sets of driving-wheels, 12 on each side. One set is under the tender, which is half the weight of the engine proper, this weight being utilized to furnish adhesion for the third set of drivers.

With tender the engine is 160 feet long, weighs 410 tons, and has a tractive-power of 160,000 pounds. Its water capacity is 10,000 gallons, its coal capacity, ten tons, and it is equipped with a mechanical stoker. Instead of a number, the engine bears the name of "Matt B. Shay" in honor of an engineer who served the Erie for nearly fifty years without a discredit mark.

An address of welcome delivered by an eloquent member of the Pacific type happily eliminated all rivalry among the different types, all struggling alike, as they are, efficiently and faithfully to serve the public weal and welfare.

It was almost beyond attainment to create and maintain anything approaching order.

Biggest Mallet Made Chairman.

A resolution was enthusiastically adopted—strange to say largely by engines which had previously made the most noise—that escaping steam should be shut off, fires banked, and only on important occasions for applause the blowing of whistles and the ringing of bells should be permissible.

The monster Santa Fe's Mallet 3009, as the biggest and greatest two-in-one engine in attendance, was elected chairman. Aside from his $40,000 cost, he has a record of pulling 100 loaded cars, weighing 4,280 tons, mostly of steel under-frame construction, and totaling in length at least 4,500 feet, so that when he had passed the Argentine Station of the Santa Fe system the train's caboose was at the Carlisle road, nearly a mile distant.

No wonder the 3009 was used on the Santa Fe's demonstration train, and that he was honored by elevation to chairmanship. As he took the platform, deafening whistles and bells sounded, the like of which had never before occurred. Chairman 3009 attempted to stand up on his hind wheels to bow recognition of the honor conferred, but was prevented by being held down by his tender wife, which had circumvented her lordship's intention of skinning out alone to the convention.

So his Malletship had to content himself by winking his headlight at

the assembled conclave and whistling for several moments. In thunderous tones the chairman stated the purposes of the meeting, among them being shorter hours of work, more lubricants for tired joints, and the elimination, in time—the sooner the better—of the use of bituminous coal.

The Lackawanna, the Reading, the Jersey Central, and other hard-coal-burning engines, abetted by several oil-burning locomotives, winked their headlights, raised their pilots, spun their drivers around, coughed as if starting on the jump, and let loose ear-splitting whistle appreciation of the chairman's remarks.

This prank was not much relished by certain represented systems not in hearty accord, owing to prevailing conditions over which they had no control.

"But there is hope," an oil-burner from Texas sagely remarked. This caused sneers from the soft-coal burners and prolonged laughter by the anthracite-burners and the oil-burners. Some of the engines, however, snorted and let off scalding blasts of exhaust steam in defiance of the resolution adopted but a few moments previously.

Baltic an Honored Guest.

As an honored guest, and attracting great attention, standing to the right of the chairman, was a giant of the Baltic type; the largest and fastest of Europe's locomotives, closely resembling the American Pacific type in wheel arrangement, saving its four-wheel trailers.

How this Baltic came to be on this side of the Atlantic was not explained, although it was surmised that this giant was in attendance *via* Canada. When required, the Baltic can eat up space at the rate of eighty miles an hour. It easily does so on the Northern Railway, the famous French road. This record was once attained by the De Glehn type, which was superseded by the Baltic type.

Other offices were speedily filled by acclamation, taking in the leading Atlantic, Pacific, Consolidation, and other types. There were 250 vice-presidents, among them the Santa Fe's giant 3000. Some of the vice-presidents created great disturbance, consternation, and threatened collisions, by trying to scramble onto the platform.

"Fie!" exclaimed 999, the Speed Queen, who, by the way, occupied a position beside the chairman. "You should be ashamed of such antics," continued she, "in the presence of a perfect lady. Your offices at best are empty honors of figure-head consequence!"

Offended the 999.

A De Glehn type remarked, with a sneer, that 999's record was unofficial, to which ungentlemanly assertion the Speed Queen tartly retorted:

"Your remark, De Glehn, is a base fabrication, pure and simple, as every truth-respecting hogger well knows, and will honestly testify, if necessary!"

No. 999's feelings were further hurt by the De Glehn's allusion to the queen's recent dairy activities. This caused considerable commotion.

The chairman, not noticing the dispute, flashed his headight in all directions and remarked:

"My friends, it gives me great pleasure to observe the presence here of some dear old-timers, who, doubtless, strained their enfeebled joints and ancient frames by coming all the way from their well-earned rest and comfortable seclusion."

Also present were wood-burners with balloon stacks—both old and modern servitors—from parts of this country as well as from Mexico and South America. At this point a goat acting as a messenger-boy interrupted the proceedings by handing the chairman a telegram, which the officer read to the assembly, as follows:

"Our Old Ironsides has left us,

supposed to be attending the Locomotive Roundhouse Convention. Put the old fool on cars, f. o. b., otherwise shall apply to Pennsylvania Governor forthwith for requisition papers. Baldwin."

Ironsides Burst Into Tears.

The telegram, on motion, duly seconded, was laid on the table amid great applause, inasmuch as Old Ironsides burst into tears at its impending danger because of the telegram's "old fool" epithet.

"My friends," said Old Ironsides, amid his sobs, "I left at home a copy of the *Railroad Journal* of November, 1832, containing an account of one of my trial trips, wherein I ran a mile in 58 seconds, and 2¼ miles in 3 minutes 22 seconds. If this is doubted, as it has been, so full of envy and malice are many people, I am willing, my friends, even now in my dotage, to try my speed against even my friend 999. I may take her dust; but she will have to hump along some, my friends, to lose me!"

The din at these remarks from sympathizing friends was enough almost to awaken the dead. A grumpy old engine, bearing neither name nor number, got Old Ironsides' "goat" by asking him aloud whether at his first trial he hadn't consumed a whole hour in running one paltry mile.

Boasts of His Past.

"Not that I remember," replied Old Ironsides, as he glared at his questioner. "Old newspapers will show that I was considered the wonder of the day and that my test of speed was great, whatever it was."

Much other business of locomotive interest and importance was transacted, including a resolution of thanks for the presentation to the chairman of a wisp of hay saved from consumption by the horses of the treadmill for operating buzz-saws that cut wood for engines more than forty years ago, during Commodore Vanderbilt presidency, on the very site where the greatest terminal in the world was erected in New York.

A resolution was adopted that, "It is the sense of this meeting that every engine present tip its stack to that great inventor, Anatole Mallet, whose genius is reflected by our great chairman's mighty tractive-power and other manifold virtues; that with deep regret and shame we demand that a record be made that although his genius and persistence resulted in revolutionizing the world's rail transportation power, neither he nor his family, so far as we can learn, gained much pecuniarily."

Immediately following this resolution some rancid engine built in Philadelphia many years ago suggested the sending of a wisp of hay to Mr. Mallet, by way of sentiment, to console him for the loss of unpaid royalties. This almost caused a riot, but the suggester stole away.

John Bull Takes the Floor.

The John Bull was conceded the floor. After clearing his throat and indulging in some other pardonable ancient engine antics, much to the amusement and admiration of the others, Johnnie, in feeble tones, addressed the vast assemblage thus:

"My friends, it gives me more pleasure than I can adequately express to see so many dear old engines of past worthy performances and the thousands of my sisters and brethren of later day and of present-time usefulness. I know your time is limited, and that you, like myself, are here pursuant to the informalities of French leave, and that we will incur the consequent penalties.

"A few words about myself and about a few of my performances, I hope, may not be taken amiss. My parents were Stephenson & Company, the pioneer locomotive builders, at Newcastle-on-Tyne, England, where I breathed my first hot air and took my first smoke, in May, 1831.

"Early the next month I was shipped to Liverpool, there loaded on the good ship Allegheny bound for Philadelphia, I being in anatomical dismemberment, on July 14th, and ended, much to my relief, at the Chestnut Street wharf of that staid and quiet 'City of Homes,' the middle of August, 1831, whither I was removed to Bordentown, New Jersey.

Tortured by Mechanics.

"The recollection, my friends, of what I suffered from the tortures inflicted by the Bordentown surgeons, tinkering and trying to reassemble my disjointed limbs—no drawings having been sent with me by my thoughtless but otherwise skilful parents—makes me hot and restless even now! At last they finished their job and almost my desire to puff and snort or rail my disgust, or even amble about on the iron trail.

"I was then proclaimed the finest locomotive in the western hemisphere, but I assure you I felt little like it. The pain I suffered from my first limbering up harbored within me wretched thoughts of committing suicide by holding down my safety-valve, as was foolishly inflicted on the Best Friend by his negro fireman.

"When I was first set up and being in good running order I was ready for business, and have been so ever since. I, being then officially designated No. 1, weighed a trifle over ten tons, my boiler was but thirteen feet in length and only thirty inches in diameter. My inside cylinders were barely nine inches in diameter. I had but a paltry twenty-inch stroke, and my first four fifty-four-inch driving-wheels were mainly of wood, having locust spokes and fellies and an iron hub. Smile not incredulously, my friends, your own spokes, although of steel and mighty strength, are hollow.

Had No Tender Companion.

"No tender companion having accompanied me from England, Mr. Dripps, of blessed memory, utilized an old flat-car, placed on it a large whisky-cask, which fed the pumps of my engine through a stretch of leather hose made by a Jersey shoemaker. This cursed monstrosity was run into my cask through a hole in the bottom of the car.

"In passing, I may relevantly announce that my parents, Stephenson & Company, were paid $3,800 for producing me—a lot of money then, but small compared with the present cost of engine building. My price is shown by the original bill-of-lading exhibited in 1893 by Dr. Watkins in the Pennsylvania Railroad Building at the Columbian Exposition, or rather by the original account which my parents also so exhibited. My elder brother, Planet, used to twit me on my high cost.

"I wish you could see the freaks I drew as my first cars, consisting, as they did, of two stage-body coaches of Hoboken construction mounted on two pairs of big wheels, revolving closely together, nearly under the middle of the car-floor. The whole outfit was more appropriate for Mardi Gras festivities than for railroad utility. Finally on November 12, 1831, being in fit condition, the New Jersey Legislature was invited to be guests in the first railroad movement by steam in the State.

Ran to World's Fair.

"My whisky-tender was afterward replaced by a square-bodied tender more consistent in appearance. It was large enough to carry a water-tank, a fuel-bin, and my crew's lunch. In 1832, my first pilot was added—a notable event, I assure you, in my early career. Later I was ornamented with a bell, I having previously been supplied with a faucet-whistle, with which to warn passengers and frighten other persons and the animal kingdom at large.

"Much more about myself that deeply interests me, but not you, I

must omit. However, in 1893, I ran under my own steam, in charge of skilful veteran railroaders, all the way from Jersey City to Chicago to attend the World's Fair, where I arrived April 22, of course of the same year." (Loud applause.)

"I left Chicago December 6, 1893, and arrived, without any accident or mishap of any kind *en route*, in Washington on December 13. To say that I was cheered all the way to Chicago and on my return journey is merely repeating unimpeachable historical events. My average speed for the entire run of 900-odd miles westward was more than fifteen miles an hour. On one straight stretch of road when feeling a little apt and gay my speed attained forty miles an hour.

"I saw at the fair, and with great pleasure I turn to see here to-night, the Baltimore and Ohio's old veterans, Sampson, Peppersauce, and Grasshopper, and its old Camel-Back; the Old Colony's Daniel Nason, and the Chicago and Northwestern's Pioneer, the first engine, if my memory's aright, to venture so far westward as Chicago, a great event in olden times.

"My final resting-place, as you all know, is in the great East Hall of Uncle Sam's National Museum, in Washington, in close companionship—if only in model form—of Matty Baldwin's famous first engine, Old Ironsides, where we often go over old times in congenial fellowship.

"I'm nearing my eighty-second year. Never a thing of beauty, but I'm still sound and hearty; and even now able to do the forty-mile-an-hour trick—perhaps a little better, if necessary. My friends, to each and all of you I reluctantly bid good night!"

As Johnnie retired deafening applause was accorded him.

As the subsequent proceedings were of an extremely secret and confidential nature, it would not harmonize with propriety to divulge their nature. That all the attending engines, after adjournment, returned to their respective places of domicil, I doubt not; but as to whether or not they were able to square matters with their respective managements concerning their absence, I am not informed; but I entertain sundry surmises as to the sequel of their delinquencies.

That the first locomotive roundhouse convention was a preeminent success goes without the saying. The final anthem, composed for the occasion, entitled "Why Do Engines Rail?" was sung with telling effect.

RED BOARD!

BY CHARLES ALBERT WILLIAMS

'TWAS a time when the loss of a moment or two would not have done any harm;
But this man took a chance just as men sometimes do, and it cost him the use of an arm.

And it's always the same in the big railroad game, to whatever records you turn—
This fast growing list of the halt and the lame—'tis time the men started to learn.

So why give the lie to the "Safety First" cry with fast and loose playing with rules;
The cautioning word will never be heard by men who won't cease being fools.

There's but one right way that your work should be done, and that way won't imperil your life;
If you're wrong, and continue the way you've begun, you'll breed sorrow and misery and strife.

The Shadow of Disaster.

BY CHARLES WESLEY SANDERS,

Author of "Jack o' Lantern Hagan," "Sleuth 'Morse' Plugs a Circuit," "A Punch on the Jaw," "Trapped by Telegraph," "The Flag of Danger," and others.

Eight Minutes to Make a Quarter of a Mile and Clear! But O'Brien Gloried in a Close Meeting-Point.

MILES O'BRIEN paused with his hand on the hand-hold of his engine. He had lifted a foot to climb into the gangway, but he set it back on the ground. Taking his orders from his pocket he walked back to the telegraph shanty beside the track. Tomlinson, his conductor, was just coming out of the door.

"You've got 'em, have you, Bill?" O'Brien asked anxiously.

Tomlinson gave him the stare of incredulity and mockery which had been bestowed on Miles O'Brien many times in the past few months. It was a stare which seemed to indicate that O'Brien had fallen a good deal in the esteem of his fellows.

"Sure I got 'em," Tomlinson said. "'Meet a 99 at Quincy and take five minutes on Five at Hocking.' Nothin' in that to puzzle you, is there?"

"Oh, no," said O'Brien hastily. "I just wanted to make sure."

He turned back to his engine again. Tomlinson stood watching while he climbed into the gangway. What was "eating" O'Brien was as much a mystery to Tomlinson as it was to scores of others. If, six months ago, any one had told Tomlinson that Miles O'Brien would develop into a man of worry, Tomlinson would have said his informant was crazy, though he might have made a mental reservation that it would be a good thing for O'Brien.

Tomlinson had as much nerve as the next; but there had been times when the dashing O'Brien had run 'em a bit too close for Tomlinson's peace of mind.

But no man could have foreseen that, once cautious, O'Brien would go to the extreme limit of carefulness. Where once he had torn a stylus across a flimsy and listened indifferently as the operator read, he now scanned his orders word by word. He read them afterward like an obtuse schoolboy getting a difficult lesson. And he was continually pestering Tomlinson to know whether Tomlinson had "got 'em."

O'Brien was in a fair way to become a nuisance. Instead of running them a bit too close he demanded full schedule limits before he would carry out a time order. Once he had headed in when he had ample time to go over to the next station. When the opposing train arrived at the siding where they lay, they were only fifteen minutes ahead of a passenger. Their train had been running well and, in the old days, O'Brien would have fled a dozen miles ahead of the passenger. Now he lay in to clear for it. An

angry despatcher didn't give them any the best of it after that, and the final result was that they went in an hour late when they should have been moseying along on the last thirty miles.

That had landed O'Brien on the carpet. He had never been on the carpet before. Everybody knew that he took chances, but everybody also knew that he got away with them. And when a man can leave an hour late with an important train and wheel it in on the dot, a whole lot can be overlooked. But lying on a siding uselessly is unforgivable.

"How about it?" they asked O'Brien.

O'Brien attempted to explain, but he found when he took up the figures that he had no explanation. There were one or two runners on the road who could have got away with it, but O'Brien was not one of them.

He had demonstrated what he could do. He had a reputation to uphold, a reputation made when speed and chance-taking were as the breath of life in his nostrils. So he fell down on his explanation. He drew the usual reprimand and the equally usual threat of "ten days next time."

And so to Tomlinson the next time seemed inevitable as the conductor caught the caboose and drew himself up on the platform. O'Brien, matchless runner, had started to "fuss" over his orders, and when your matchless runner starts to "fuss" he leaps at once to a high eminence of fussiness. He can give cards and spades to those who have a nervous chill every time they have to steal a minute or somebody has to steal it for them.

When he got 'em rolling in good shape O'Brien took out his orders again. Nowadays his flimsies were creased and blackened from much handling by the time he had carried out the orders written on them. He went through these orders painstakingly once more.

There was nothing intricate about them—a simple meeting point and time on the passenger. He shouldn't need the time on the passenger unless the 99 laid him out; but, already, he was figuring how much he could let the 99 lay him out and still give him time to use his allowance on the passenger.

"There they are," he said as the fireman climbed up on the left-hand side. "Look 'em over. Don't let 'em blow out of the window."

The fireman read the orders through at a glance. He had been firing for O'Brien for nearly a year, and he had known O'Brien when O'Brien gloried in a close meeting-point. Often he had watched the young engineer sitting with his hand on the throttle, confident, serene, nervy to the last degree while he took from his engine every ounce of strength and energy that was in her.

The change in the engineer made the fireman sad. He couldn't understand it. He had aspired to be the kind of engineer O'Brien was, and now his idol was in the dust. No miser ever worried more about his pennies than O'Brien worried about his yellow sheets.

"I got 'em," said the fireman, handing back the flimsies, and watching O'Brien as O'Brien read them through again.

"Keep your eyes peeled while you're sittin' up there," O'Brien said. "I don't want to run any blocks and get into the hind end of some damn fool that don't know enough to get into clear."

II.

GRITTING his teeth and urging his engine all the way, O'Brien managed to make up fifteen minutes on the fag end of his trip. He had not used his time on the passenger, and he was well aware after he had failed to use it that he should have done so.

But, to him, the time had seemed too close. There had been a curt note

from the despatcher and a few leading questions from Tomlinson, who came from the hind end to ask them. O'Brien had sat hunched on his seat, silent and anxious. Visions of the carpet and a sterner questioner than Tomlinson woke him up, and he spurted for the district point and made it.

He went to the telegraph office to see if there was a summons for him, but there wasn't—yet. So he registered and changed his clothes. He was tenth out and he had a little time.

Dressed in his street clothing he came out on the road which passed over the tracks. Beyond the bridge there was a saloon. In the past he had visited that every time he came in. He was not a drinker, but he had taken his glass of beer in the open, notwithstanding that rigid rule in the book.

He saw Tomlinson disappearing into the doorway of that saloon now. He did not regret that he could not join the conductor. At least he had no regrets for those things he had given up for a woman's sake. If he had lost something of his skill, he had gained a good deal in what might have stood for moral stamina—and there was an abiding satisfaction in that.

At times when he seemed weakest in his work, he was conscious of something sweet and strong growing up in him. He wondered about it a good deal more than he understood it.

He took a street car and rode ten blocks. Summer was in the morning, and the breath of it got into his heart now that he was leaving the road and its cares behind. It was always like this when he was going to her. She was so calm and serene herself that she bred calmness and serenity in him.

He found her in the little sitting room of her home, waiting for him as she always waited when he was to come. She had a telephone, and she knew when his trains were due. It was only half past seven, and she need not be at the school where she taught till half past eight eight.

O'Brien would have a golden hour with her.

She came across the room to him slowly, scanning him, searching for any visible sign that he had betrayed her. But there was none. In spite of his reiteration that he could not slide back while she lived, she, too, had her burden of care and apprehension. She had come to twenty-five without loving.

She had met the young engineer at the Y. M. C. A., on a night when the women of the railroad community were admitted there. Her father had been an engineer, and she still kept her lot with the railroaders.

The result had been swift and sure with them. A handclasp, brief and formal, and a glance into each other's eyes had been sufficient. He broke through a shell of demureness and restraint, and she revealed herself to him as the original woman. Love softened what harshness he had. As the bravest are the tenderest, he could be very tender. She could not suspect a vice in him—a vice that swept him like a flame and that seared and scorched like fire.

But the men knew. Firemen had wakened him sometimes in the dead of night when he slept with his hand on the throttle. Conductors had smuggled him over the road in their cabooses so that he might be ready for his call. Men in the roundhouses had seen him come on duty red-eyed and weary.

For to Miles O'Brien there had not been satiety in the daring chances of the road. He had wooed the goddess of chance with card and wheel. He was a gambler born. Many nights when he should have slept he sat at table, a green shade drawn low over his eyes, and bet and passed and bet again.

Sometimes he won, of course, but

the net result was that when he first felt Jane Haywood's soft palm in his, his name had never graced a passbook of any bank. The hungry lady who presides at poker tables had taken his wages.

The little running breath of gossip came to Jane at last. She could never remember who first told her. It seemed an evanescent something that leaped from lip to lip and finally reached her ear. She had no way but the way direct. And so she charged Miles O'Brien with his iniquity. O'Brien might have been a fool, but he was not a knave. He could not lie to her. He said that what she had heard was true. She sent him away.

It tested his courage, and his courage stood. For three months he did not see her, nor did he touch a card. Bright-eyed and clear-headed, he sat in his cab and wheeled his trains.

He wheeled them in a way that brought words of admiration even from old-timers. He became well-nigh a perfect human machine. His mind worked incredibly fast in emergencies. He was up and away, while a slower-witted man would still have been pondering.

At the end of the three months he went to her. He told her what he had done. He showed her a new bank-book into which there were three entries, the last on a recent pay day.

"Oh, Miles, Miles," she whispered, as she clung to him. "What if you hadn't the courage to do it? I'd have died."

A tremor went through Miles O'Brien. His body shook as if he had the ague.

"Are you cold?" she asked.

"I was just thinking," he shuddered, "what if you hadn't taken me back? While I been away from you, something has kept me up. But what if I had lost you? I'd have gone crazy, I guess."

And when he went away from her that thought was woven about his brain like a spider's web. What if he should lose her now? She was strong in a way, but she was delicate, too.

Her father had been a "good provider," and she earned an easy living for herself. She had never known hardship. He must save — save for her. What if he should lose his job? He must be careful. He must make no mistakes. Above all, he must keep off the carpet.

His old wild days were gone forever. He must build a reputation for caution. He must make his job secure by winning the esteem of his superiors. And so he developed into a careful man—aye, he did more than that. On this morning when he went to see Jane and found her glad that he had not slid back, he had developed into an incompetent man. He would have made a first-rate hod-carrier or wheelbarrow trundler, but it was not just then in his heart or his brain to sit successfully on the right side of an engine-cab.

He took Jane's hands in the little sitting-room and drew her down beside him. He was voluble for a time and then he noticed that she was quiet. He scrutinized her and found she was a little pale. Keyed as he was in the high note of fear, he began to worry about her.

Was something the matter? Had he done anything? Was she afraid for him and was not telling him?

At the end he found there was nothing worse the matter than that Jane had a headache. She hadn't slept well the night before. It was getting toward the end of the school year and her duties were a burden. But she would soon be free and then she would be all right.

But he was not easily satisfied. He insisted on going to the drug-store to get something for the headache. He diagnosed her ailment as being more serious than it was. He blamed himself for having some old debts that would prevent their marrying for a

time. That roused Jane to shield him from himself.

In the end he persuaded her to remain away from the school-room for the day. The result was that a tired engineer showed up for first 81 about dusk. He had stayed with Jane till he had found he was second out, then he had gone to the yards.

When they went for their orders at the yard office Tomlinson gave him a glance of suspicion. O'Brien felt the glance and flushed. He turned an angry face on the conductor.

"What's eating you?" he demanded in a return of something like his old spirit.

"You look like you been through a washing machine," Tomlinson said. "What you worrying about now? Got something fresh on your mind?"

"It's none of your business," O'Brien said. "If you know what your orders are, let's get out of here."

"You've got 'em, have you?" Tomlinson sneered. "Think you can get over the road without a pilot tonight?"

"You take care of your bills," O'Brien shot back. "I'll run the engine."

"Glad to hear it," said the conductor, and he stamped out of the office.

The fact was that Tomlinson had spent five of the hours during which he should have been in dreamland in playing seven-up in the back room of the saloon. He had also imbibed more than his fill of beer. Besides, he was "sore" at himself, because he didn't believe in that back-room business. And he was tired and grouchy.

First 81 was made up of thirty-two cars of steel rails. O'Brien had all he could do to get the train running with any degree of smoothness. His orders were still in his pocket. He hadn't shown them to the fireman. He was very sleepy before they had gone ten miles. He couldn't stand the loss of rest any more.

They met a couple of 80's and went in for a passenger-train. O'Brien took out his flimsies and read them carefully. He had fulfilled all his orders.

As they lay on the siding waiting for the headlight of the passenger to show his thoughts drifted for a moment from Jane to Tomlinson. What the conductor had said about a pilot rankled in his breast. In the old days Tomlinson would never have said that. Hang him! he'd had Tomlinson sitting on the high seat a good many times in the past.

"Some day you're going to spill them all over the right-of-way doin' that," he had heard Tomlinson say a good many times.

In fact, there wasn't a conductor on the road whose hide he hadn't hung up to dry more than once. When the shading had been extremely fine he had often sat in the cab and gloated over the fact that back in the caboose the conductor was fretting for fear they wouldn't make it; but they had always made it, and here was a conductor talking to him about a pilot!

Angry and sore, he climbed down when the block was red against them at the coal-dock. Tolminson was swinging leisurely up from the hind end. As he came into the telegraph office he was stifling a yawn back of his big fist. O'Brien gave him a glance. He was sure Tomlinson had been pounding his ear back there in the caboose. It was a good thing *he* was right on the job.

The operator tossed six books down on the window-ledge. This was the heaviest order office on the district. The despatchers took advantage of the fact that most trains stopped for coal. They fixed them out as far along the line as they could calculate in order to save stops. The despatcher had done his best for first 81, for he knew how those steel rails pulled.

Tomlinson drew the bunch of books

toward him and scrawled his signature across the top sheets. O'Brien did likewise; but he carefully counted the orders, so that he would know how many he had signed for. One by one the operator read them. Tomlinson shoved his into his pocket and made for the door. By the time O'Brien got outside the conductor was half-way to the caboose.

"Going to hit the hay, ain't you?" O'Brien said to himself. "Can't wait till you get there hardly."

He knew exactly how Tomlinson felt. He had pulled that stunt off himself in his reckless days; but now it seemed a criminal thing to do.

When he had got under way he pulled his flimsies from his pocket and handed them to the fireman. The fireman read the first and glanced through the others. He knew that as soon as the first was complied with O'Brien would hand over the others for a second reading. And thus O'Brien's late habit of caution bred so much carelessness in the fireman.

The fireman reverted to the first order. He would fix that in his mind and let the others go. He began to read it aloud. O'Brien listened.

"First 82, engine 496, will wait at Oswald until 8.45 p.m. and at Weaver until 9.10 p.m. for first 81, engine 675."

"That Oswald time is close," O'Brien said. "I guess probably we'll have to lay at Weaver for that 82. This bunch of iron doesn't pull so easy."

The fireman turned to the fire-box with a shrug of his shoulders. If O'Brien couldn't make that time, the fireman guessed he'd soon be shoveling for another engineer. Why, if they went in at Weaver, they'd lie there for thirty minutes. It was a joke.

Weaver was twenty miles from the dock. O'Brien made the first ten miles in good shape. He began to think he might go over to Oswald. "Eight forty-five and nine-ten," he kept saying to himself, for he had got into the habit of rehearsing his orders in his mind.

At the end of the ten miles he began to feel drowsy. But, now, he would as soon think of jumping from the cab window as of going to sleep on duty. He leaned for fresh air. Before he drew back his head he glanced toward the rear end. A dozen cars up from the caboose a lantern was bobbing. O'Brien shut off.

"Tomlinson is swinging us down," he said. "I guess it's Weaver for ours now."

The fireman detected the note of relief in his voice. Oswald might have become a little close before they headed in there for the 82. The fireman could see O'Brien was glad to take the easier meeting point.

The engine stopped in front of the station at Chardon. The block was white. If it had not been for Tomlinson's signal they would have sailed through.

Leaning far out of the cab, O'Brien watched the lantern. It came to the middle of the train and then dropped to the ground as the holder of it made a hurried descent.

"He's got a hot box back there," O'Brien said. "He'll probably want to set out a car."

He sat looking back. The lantern was lifted from the ground and he got a go-ahead signal. He saw that the caboose did not move and knew that the train had been uncoupled in the middle.

They dropped down to the west switch and ran past it for some distance. On a signal, O'Brien backed up and slowed down. He saw the switch turn from red to white again and understood that the car with the hot-box had been successfully kicked into the siding.

In a few minutes they were coupled-up and Tomlinson gave him a high-ball.

O'Brien looked at his watch. It marked eight forty. Oswald was now out of the question, but he had

good time in which to make Weaver. He leaned back and let her slide.

A quarter of a mile from Weaver, O'Brien sat with his watch in his hand. It was 9.02. He had eight minutes to make that quarter of a mile and get in to clear. Of course, he couldn't clear quite according to Hoyle, but the time was not close enough to be dangerous.

He leaned forward to shut her off. Suddenly there was a slowly broadening light at the base of the hill round which the track curved. He stared at it in speechless amazement for the fraction of a minute. Then the headlight of 82 came into sight, followed by the black hulk of the engine.

"We're into 'em," the fireman screamed.

As he spoke, he leaped for the gangway.

O'Brien had shut off, and there was nothing he could do but follow the fireman.

The 82 had just been gathering speed coming out of Weaver. In the glare from his own headlight O'Brien could see the fireman and the engineer jump down just before the crash came.

It was not much of a wreck—a few draw-heads smashed and the pilots of both engines flattened. But it would serve for whoever was to blame, O'Brien knew well enough.

He scrambled up from the gravel and ran toward the engine of 82. Bartholomew, the 82 engineer, got to his feet as O'Brien came up.

"Much obliged to meet you," said Bartholomew, with a grin. "What are you doing here at this time of night?"

O'Brien pulled out his watch.

"I got 9.05," he said. "What you got?"

"I got 9.05, too," Bartholomew answered. "But that's no sign of a duck's foot. Your time at Weaver was 9.01. We pulled right out on the dot when you didn't show up."

"9.01—9.10."

The two sets of figures sang in O'Brien's ears. He could see 9.01 on the flimsy without looking at it again. That was the time at Windsor —9.01.

The 82 was due there at 8.41, and the despatcher had given him twenty minutes. He remembered quite clearly that he had made that mental calculation when the operator had read the order to him and Tomlinson.

And then he heard the fireman's droning voice: "And at Weaver till 9.10 P.M." He had caught up that 9.10 from the fireman's lips and it had been his guide.

He heard a heavy step behind him. He wheeled. Tomlinson was striding toward him. Marks of sleep suddenly swept away were in Tomlinson's eyes.

"Well, you got 'em together, didn't you?" Tomlinson sneered. "I knew you'd be doin' that sooner or later. You old woman! You ain't fit to railroad. You ought to be runnin' a street scraper."

The next day shortly after sundown O'Brien stepped down from a passenger-train at Arlington. Arlington was the town in which he had done most of his gambling in the past. In his inside vest-pocket he had two hundred dollars. It was what was left of his bank-account.

With the balance he had paid the last of his debts. He was without work—his beheading had been swift and sure—and the two hundred dollars was all that stood between him and the future.

And he was going to risk the two hundred on the green cloth.

He had figured it all out. If he won, he would win a lot. He was going to force the cards. It was a table-stakes game. He might clear up five hundred or more. He would stay with the game till he won heavily or went broke.

If he won he would marry Jane and take her away with him. They would start all over.

If he lost! The thought left him cold. He simply must not lose.

The man back of the door let him in without question. There were players at two poker-tables, but only five players at one of them. O'Brien approached this table. It was warm in the room, and he took off his coat and reached for an eye-shade.

"Welcome to our city," said one of the players. O'Brien slipped into a chair.

The others did not speak. O'Brien pushed a bill across the table. The banker shoved back a stack of chips. O'Brien fingered them till the hand was played. A man began to deal. O'Brien had three cards in front of him.

Suddenly he lifted his head and stared above the head of the player opposite him. He had thought of his promise to Jane, and it was as if her sweet, soft presence had invaded the smoky room.

"You will never touch another card as long as you live, no matter what happens."

Those had been the words of his promise.

The fourth card fell. He looked down at it curiously. There was no thrill in the game for him. He had come because he needed money. Money for what? To marry Jane?

The fifth card fell. His hand was ready. Quickly he took the stack of chips and tumbled them across the table to the dealer.

"Cash me in," he said thickly. "I don't want any of this."

The dealer handed him back his money with no more show of emotion than if he had laid down a straight flush.

After a sleepless night he went up the walk to Jane's home in the early morning. Jane threw open the screen door to him and drew him inside.

"Why didn't you come to me at once?" she asked. "I heard about the wreck and your dismissal. Why didn't you come to me at once?"

He drew her into the sitting-room and he told everything that had happened. He explained minutely the changes that had taken place in him since he had known her—his worry, his overcaution. When he began to tell of his visit to the gambling-room her hold on his hand tightened.

"But it seemed," he concluded, "as if I couldn't touch one of those cards. You were there with me just as strong as you are here now. All that is past. But I guess I don't get anything more than that out of twelve years of railroading. I'm ruined, Jane. Nobody wants an engineer that forgets."

"I want that engineer," Jane declared in a thrilling tone.

"But think of the long wait," he said. "I've got only a few dollars in the world. I've got to go West. I'll have to start at the bottom. Heaven knows how long it will take me to work up again. Years, maybe. You can't afford to wait, Jane."

Jane raised her head. She looked across the little room as if its walls gave out upon a vista that only her far-seeing eyes could behold.

"I'm not going to wait," she said. "I'm going with you. Oh, Miles, Miles! can't you see that nothing matters except this last that you have done? You've found yourself. You're a man through and through. It won't take you long to come back. You'll find that all your old recklessness and your present strength will fuse into a courage that will take you as far as you want to go. Marry me to-day, Miles, and we'll go away."

He sat unmoving for several minutes, holding tightly to her hand. Slowly it came to him that what she said was true. The worst that could possibly happen to him had happened. And yet he had survived and she still loved him. He turned his eyes to her. Fear was far removed from her. She was radiant. For a woman like that a man could do anything. He slipped an arm across her shoulders. Jane laughed.

Observations of a Country Station-Agent.

BY J. E. SMITH.

No. 78.—Yes, Rollo, the Moving-Picture Railroad Drama Differs Materially from the Rigid Rules of the Operating Department.

I NOTICE that a moving-picture audience—a mixed audience, ranging all the way from the county judge to the day laborer—sits up and takes notice in keen, tense interest when railroad scenes are depicted.

There is something rather majestic and impressive in the appearance of an oncoming train. When an engine emerges around the curve or appears in the distance within the camera focus the fireman shoves in the "mine run" to produce the maximum quantity of smoke.

In the mean time the "old tub" in the performance is made to "pop off" or the whistle is sounded continuously. Understand it is necessary to mix steam with the smoke, which must roll out and up in both black and white in prodigious volume.

It is not exactly the way an engine is fired, but the effect on the audience is perfect.

The photographic view is magnificent. It shows her coming down the stretch with a tremendous rush and roar and swirl and whirl of smoke and steam. The spectacle classifies somewhere between an Oklahoma cyclone and a Borneo typhoon.

In viewing these railroad dramas your practical railroad man usually assumes a superior contempt. He tries to appear bored. It is all so common in his every-day experience.

It is such an ordinary and frequent occurrence to find a hero or heroine tied across the rails, and to bring the engine to a dead stop just thirteen inches from the bound form; to crawl out and unleash the victim and thwart the villain, that the photo-play depicted scene is tame enough and he does not enthuse.

Take it from me, this is all assumed. All the while the railroad man is mightily interested. I am not writing to maintain that a railroad man can learn a great deal from the "movies" about his own calling. Personally my fund of information has been vastly enriched. I have seen so much that never could have happened on a railroad that I do not mind the expense.

I never knew until I saw it in the movies that when male or female sees one of the opposite and is smitten by him or her, there is a lingering look, a placing of the hand over the heart—like the fine adjustment of a mustard application—then a deep, long breath which fills out, lifts up, and expands

Series began in the July, 1907, Railroad Man's Magazine. Back numbers for sale at this office.

into a smile and a nod, all clearly indicating that at last the prize Alberta has been found.

In crude conception of human emotions he just walks up and grabs her on these occasions, with this remark:

"You are the niftiest one of them all, Sallie. There are more stripes on your wings than any other butterfly that ever flitted across my pathway."

Whereupon Sallie blinks and smirks, swaps the gum from left to right, and comes back with:

"You are some kidder, Jack, believe me!"

"On the dead square, Sallie," responds Jack.

I thought that was the way all these big deals were closed. I did not know of the sly turn away, the deep breath, and the signs of internal commotion that are involved. You see, I learned something. If I have any future courting to do I shall know how to proceed, and to diagnose the case by the symptoms as illustrated.

I do not think we fully appreciate the educational possibilities of the movies.

A few evenings ago I saw a wild-west drama. There were real Indians and mountains, and what I took to be cacti and sage-brush and a desert spot of the far West.

It was a very wild, untamed country. The half-naked savages broke out of their reservation in war paint and wild whoops, mounted on galloping horses. They captured Irene, the beautiful daughter of the Adobe, sole comforter of Old Round-Up Sam and sweetheart of Lion-Hearted Luke.

Of course, Luke rescued her from the marauding Apaches and bore her away on his trusty filly with Frog-in-the-Throat and his band in hot pursuit and gradually gaining. Thrilling situation—intense excitement!

It was soon evident that Luke would be overtaken. He was running out of gasoline and one of his cylinders was missing.

On they came, closer and closer. *Puff—bing! Bang!* Half staggering and falling, Luke came to a railroad. A real railroad through the land of desolation and slaughter! Glory be! Happy coincidence! A train was approaching. Likewise old Frog-in-the-Throat!

With one last desperate effort Luke wrenched off a yard or so of Irene's red petticoat and flagged the train. It was the Honolulu Express. They came to a stop and took him aboard, while Frog-in-the-Throat got the ribald and raucous ha, ha! from Luke, the conductor, the engineer, and all the passengers. Whereupon he whirled in baffled and impotent rage, let fly a Huerta salute, and dug for beyond the divide.

It must be understood that through it all I had the usual shudders and the goose-flesh up and down my spine for the fate of the fair Irene and daring Luke, but I was further impressed as a railroad man by the details of the final developments.

First there was Luke's fine presence of mind. Many a desert lunkhead in the excitement of the moment would have grabbed his old sombrero and waved it frantically. Not so with Luke. Somewhere within lurked the germ of technical information stored up from earlier scenes of civilization.

Nothing is flaggier to the eye of an engineer than a woman's red petticoat. Pause a moment. Now, all together on the chorus: "Ain't that the truth?"

Luke of the unstaked plains and the steppes knew it. Conceding that Luke knew all about flagging trains the next surprise came when the train came to a stop to take him aboard.

It was only a local passenger-train made up of one baggage, a smoker, and one coach. It shook my confidence a bit. Out in these wild and desert places, where there are only naked Indians and isolated rangers, why should there be local accommodation-trains with no through cars?

It is not a pleasant experience to

have doubts that, after all, it may never really have happened.

Having a passing familiarity, I noticed the type of engine, its number, and I read the road's initials on the tender and the sides of the cars.

It was a solid New York Central local train!

There is where the movies help us with our education. I have always had it that the furthest west the N. Y. C. goes is St. Louis, Missouri. But here was indisputable, camera-caught evidence, showing the New York Central penetrating the most hostile parts, where the aborigines wear only a feather and the rarefied air.

It is easily understood that if shown east of the Alleghanies this would probably not raise a question of doubt. It would be accepted as real life around Muncie, Indiana, or Marshall, Illinois. But out around these parts where all the Indians we see are the heads on the old-style copper cent, and the landscape is barb-wire, corn, and alfalfa, we find some difficulty fitting the New York Central equipment in the surroundings.

It shook my faith somewhat. I do not think the audience noted these small details, as it accepted the play as a fine far-western affair. There are some great sins being perpetrated around Herkimer County, New York, or Hackensack, New Jersey, against the far West.

Recently I saw another thriller. This time it concerned a telegraph operator. He just happened along, tie to tie, but he overheard the plans of spoliation and disaster against the through express. He had crept up onto a covey of yeggmen, unnoticed, and heard it all.

The yeggs were after the ten tons of gold bullion in the express car, guarded by a lone messenger on fifty dollars per month and pay his own funeral expenses.

As I stated before, the operator just happened along. He wasn't going anywhere in particular. His ear caught sounds. They were the muttered curses and the sibilant hisses of dark and desperate undertakings. All devilish deeds are hatched with muts and sibs. The operator concealed himself and learned every detail of the diabolical stunt about to be pulled off.

He could not reach the nearest telegraph office. He was in a lonely far-away spot. I cannot imagine how he chanced to be there afoot. From my knowledge of operators, no operator ever walks from A. to B. if there are any means of locomotion from a hand-car up to the best the road affords.

This particular operator was not hunting game, because he carried no arms. He was not after mushrooms, because he carried neither bag nor basket. He was not a naturalist or bug-ologist, because he carried no net.

But, no use to discuss all that. He was there — and he was brave, handsome and resourceful, as we shall see.

When he heard enough to get the full import of it all, wherein No. 13 was to be dynamited and looted, he instituted quick action to thwart the conspirators. Thwarting conspirators is about the liveliest sport known to the movies.

This particular operator was a genius for means and devices. He climbed a telegraph pole. He went up without climbers in that good old way of hugging tightly and hand over hand. He reached the cross-bars, rested a bit to gain his breath, then bent to the task ahead of him.

I am still puzzled to know how he did the trick, as he appeared to have had nothing but a jack-knife. The obliging photographer gave us a close view of him tugging and pulling in desperation, but he severed the wire.

I do not know exactly how he did it. Perhaps he inserted it between his incisors and molars and gave it the strong-jaw seesaw, but why grow tiresome over these inconsequential details?

He grasped the disconnected wire firmly. Then by touching the ends with dot and dash he slowly spelled out the warning, and the sounder in the despatcher's office spelled it out to all concerned.

We were favored with a glimpse of the despatcher. He was shown in wild and startled *response*. But just how he could respond makes the picture interesting to any operator. Anyway he did. I saw him.

How could he respond? How an operator can cut the wire then bring the ends together to point of contact is too much for me to explain. I am not overbright, anyway. Any other operator who wants to figure it out is welcome to the job.

As to the story. When the operator had done his duty he slid down the pole and collapsed. But the train was saved and the bandits were taken, and, no doubt, the brave operator was rewarded by being given the regular night job at Lonesomehurst.

I want to add that he earned it. When any operator swings on a cross-arm and can telegraph with the loose end of a wire suspended taut from the next pole a hundred feet away he really belongs to the strong-arm squad and has in him "the makings" of a "white hope."

When strung, telegraph wires are stretched by pulley. It will be seen readily that severing the wire and retouching the ends by hand for the delicate contact and shading of dots and dashes is some undertaking.

Picture-plays where operators climb poles and telegraph from the cross-arms are common enough. One that impressed me deeply was where the operator did the trick with a key and sounder. In some way he made the necessary attachments, and the sounder seemed to produce the returns. He had no relay nor batteries, understand, nor small wire for connections. He got service from the main wire direct through the sounder.

Sounders are not wound that way, but the chap appeared to have no trouble on that score, but anything can be done and nothing is impossible with the camera.

I have seen many other scenes in telegraph offices and at despatchers' desks that are educational.

When the news to be imparted by wire is startling and important, the movies always show the performing artist at the key jumping out of his seat, bending over his desk and frantically pounding the key in fine paroxysm of excitement, just as if the fever of his agitation added to the transmission of the message.

All that pantomime is only for the purpose of keeping the spectators in the proper spirit of the performance. We cannot transport any quality of human emotion over the wires. The sledge-hammer pound, the most vicious jab and the gentlest touch are all one and the same when they come out for delivery at the receiving end.

But how would an audience know the situation was tense and desperate if the operator did not jump up excitedly and pound the key in frenzy?

It is a fact that an operator can and does transmit and receive messages of startling import without taking his feet off the desk, or taking his pipe from between his teeth or changing his cast of countenance in the slightest.

The acrobatic maneuvers attending such service are volunteered and manufactured that the spectator may have his money's worth.

I saw another film wherein an operator was warned that a runaway engine and a cut of freight cars was hot on the trail of the through express with the deadly intention of plowing into the rear coach which happened to contain the general manager's wife and daughter.

The operator grabbed a red flag, ran out on the platform and waved it wildly and amuck like a woman shooing chickens.

A passing engineer would have had to guess what the young simp was

trying to do. He would have thought that some boob was trying to hive a swarm of bees or that he liked to have his epileptic fits accompanied by a color scheme.

The performer gave all the known flag signals in one wild whirlwind. It took well with the audience. It showed he was the real flagger from Flaggerville. But an engineer would have guessed that he was an earnest and nimble citizen engaged in a hand-to-hand encounter with a bunch of wide awake yellow-jackets. None of the motions involved are described in the book of rules.

Even if the engineer could not read them, the flagging gyrations were violent enough to entertain the audience —and that is the main thing.

We wondered why the operator did not hold the train with the block, and what was the matter with the semaphore. If the block was against the train to no avail, what was there to be accomplished by going out and waving a red flag?

All there was to it was action. A moving-picture must have action. Without action it does not go.

One turn of a lever throws a danger signal. That is a tame performance. Grasping a flag, rushing out and frantically waving it while the train comes up and by and on, gives a full measure of motion, and the audience is pleased.

To complete this story it shall be briefly narrated that the runaway freight did not telescope the rear coach of the passenger train which contained the general manager's wife and daughter.

The general manager himself was the quick thinker and the speedy babe. He intercepted the runaway freight by way of another line which somewhere crossed the first-named line at an overhead crossing. He found an engine ready and waiting, which is quite convenient in such a life-and-death necessity.

He steamed out and reached the overhead bridge just as the runaway freight came in sight. He swung down between the bridge-ties. As the train thundered by under him, he dropped into an open gondola.

With a head for ways and means and with resources like that, no wonder he was general manager. That is what brains does for a man. Who would have thought of that shift but a general manager?

The way to stop a runaway train is to get overhead and drop down onto it. What blockheads most of us are! I would not have thought of that in a hundred years—and I am not much of a general manager.

Crawling out of the gondola, the general manager hopped over four cars and made his way over the tender to the cab. He found the engineer senseless, and the "burning deck" deserted by the fireman.

He shut her off. The freight came to a stop. The limited stopped. Everybody piled off in demonstrative felicitations. The general manager's daughter should have gone back and married the operator who waved the flag. They usually do.

There is another railroad drama with stirring scenes that comes along in regular order. In this play the firemen reach the limit of hardship and abuse, and decide on radical remedial action.

About the roundhouse or the yard there is a sudden commotion. The firemen climb off engines and talk excitedly and jesticulate wildly with head and hands. The breaking time has come.

As a committee of the whole they call on the general manager. There are usually five in the committee, and, by good luck, the general manager is somewhere around the corner or up the street in easy range.

The effective staging is something like this:

Scene: general manager at his desk with a hard grim visage. You read it all in one glance. He is flinty and

unfeeling and obdurate. He is a harsh and cruel master. They will never get by him with any of those softer human emotions—never!

The committee is ushered in. Every man is in jerkies and overalls just as he climbed off the cab. One has a bunch of waste in his hand, probably to wipe his begrimed face from time to time. Another carries a monkey-wrench. A monkey-wrench is very handy in any sort of an argument.

Of course no committee ever waited on a general manager without washing and changing clothes and leaving on the engine all the bric-à-brac that belong there. We get new and novel views of our calling from the movies.

A tentative awkwardness is apparent. The general manager looks up with a jerk, hardens the lines of his face and snaps out something short and peremptory, like:

"Well?"

There is no friendly personal greeting, understand. There is no exchange of small amenities introductory and preparatory to the business at hand. That would spoil the spirit of the play—for the audience.

Suppose the pictures were absolutely correct. Suppose five well-dressed men called at the office of another well-dressed man, and the meeting was friendly and cordial and bore no outward sign of acrimony or resentment. Suppose a paper was presented and was received and considered with courteous attention, and a discussion took place for the purpose of reaching a basis of agreement, and no one distorted a feature or shook a fist.

Would such a picture go with any audience?

Nay! Nay! There is but one way to present the scene. There must be wrath and rage and fury, oil and coal dust, overalls and monkey-wrenches; wherefore, let us again revert to the scene.

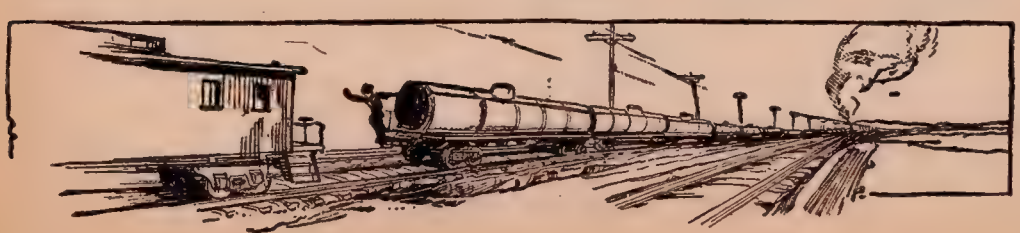
The committee handed the general manager a paper, a list of grievances or an ultimatum—no matter. The magnate took it with a resentful jerk, gave it a hurried glance, then wrathfully and ragingly crumpled it up and fired it at the waste basket with a Walter Johnson inshoot.

Then, with a somewhat majestic infuriation, he raised to his full stature and pointed toward the door, which is, in all languages and places of these polite times, the sign to begone, vamose, avaunt! It indicates that hostilities have begun.

People are learning a lot from the movies about the inside workings of railroading.

I have been further puzzled by the photo-plays. I have noted a strange performance, a most mysterious behavior first in automobile wheels and next in the drivers of a locomotive. They often revolve contrary to the direction traveled. The engine moves forward, but the wheels are turning reversely. It gives me the creeps. Do they turn backward? Am I needing the cure again? Or, am I developing into a cubist?

Just a few nights ago I saw a picture, but not a railroad scene. The villain or the hero, I do not recall, was reading a magazine. He arose and went to the window. I saw plainly what he was reading. It was the RAILROAD MAN'S MAGAZINE. No exceptions to that picture. It was depicted with faithfulness and accuracy.



Honk and Horace.

BY EMMET F. HARTE.

Our Old Friends Attend Several Combination Dinner-Dances and Looting Parties.

WAS the height of the social season. The merry, mad whirl of ball, bazaar, tango tea, reception, infare, and prenuptial shower in the One Hundred, *i.e.*, Valhalla's exclusive Smart Society Set, was in full blast.

Honk—pretending to toy with his bacon, eggs, and stack of buckwheats—sat contemplating a pale-blue note the postman had just poked under the Medicine-House door.

"Uh-ha, Horace," he sighed, trying to fake an air of bored indifference that didn't match the gratified glisten in his eyes, "we're invited to a swell affair at Armitage's Thursday evening. Dinner, and—er—dancing."

He made a feint of yawning while watching me narrowly the while.

"All right, I'll go," I decided promptly. "Not, however," I made haste to qualify, "because I'm all skewed up with nervousness for fear I'll forfeit my social prestige if I don't go, but because P. Q. Armitage is a friend of mine. He's a plebeian like me if you peel off the gold leaf, and birds of a feather must stick together."

"Quite so," murmured Honk.

The main thing was to obtain my consent to attend a social event of any sort, a consummation that was the bugaboo of Honk's waking hours.

Honk and I are recognized members of the charmed circle of the One Hundred now, thanks to Honk's having horned aside all opposition, if any, to our triumphant entry therein; and he contends that if we don't keep on climbing we're in danger of slipping back, since it seems there is no safe and secure turning-out place where a casual observer can ship his oars, sit quietly, and watch the pageant pass.

I suppose I'm not quite so susceptible to the society microbe as some—Honk, for instance. The grand round of fashionable folderol doesn't interfere with me much, because I don't allow it to. Honk, on the other hand, takes it all very seriously. He loses sleep, weight, and time trying to cut a pink dash in the dizzy whirl. Well, everybody to their taste, as the fisherman said when his boat-puller got excited and inadvertently swallowed all the bait.

I incased my impressive personality in the formal trappings prescribed for such occasions and, in the company of Honk, who likewise was appareled in modest but modish raiment which marked him unmistakably as a gay dog in the high noontide of his day, the two of us hied us away, away to the bright arena where joyous hearts would vie in happy joust 'gainst the black knight Solemnity, and Sadness,

All back numbers containing Honk and Horace stories for sale at this office.

the jade, with a shriek of hysterical laughter, would fly ignominiously before the onslaught of an army corps of charging Cupids.

But don't let's get allegorical just yet. We must keep at least one foot on the ground until we see where we're going to light, as the amateur aviator remarked when a tree got in his way.

We arrived at the Armitages' *place de abode* that Thursday evening without the slightest mishap. It was a splendid gathering of the élite that met our gratified gaze; a brilliant, not to say dazzling, scene of gaiety and color and—and so on, at its sprightliest.

Excuse me for not elaborating. I must needs skip over a great many details—decorations, costumes, names, ratings, etc.—in order to keep within circumscribed bounds.

After I got there I was glad I'd come. Mrs. Armitage has real ideas about entertaining people of taste and discrimination. Of course you know society is a great game of "I'll-go-you-one-better-if-it-takes-the-hide-off."

For example: When the Dupont-Skaggses had real, live butterflies flitting about their conservatories in January, instead of dead ones strung on wires, as conceived by the Parkinson-Crowleys, naturally they put one over; it was a great stroke.

Likewise, when Mrs. Harold Higgins served genuine Chinese birds' nests at her Farthest East dinner-party in rebuttal of the Carter Finleys' Japanese tea-room tea, with maids got up to represent geishas, all the smart-setters ki-yied their envy.

So, when Mrs. Armitage beguiled us with an out-and-out cabaret dining-room setting, having all the local color reproduced true to life, her avowed rival, Mrs, Fairleighbridge, perforce turned grayish green mottled with blue, so sore was she chagrined to think that her best bet hitherto had been only a phonographic rendering of the Hammer and Tongs Aria from What's-His-Name's opera, "The Boilermaker's Revenge." (At least, that was what it sounded like to me.)

I WAS DOING MY OWN ORIGINAL VERSION OF THE TANGO TROT WITH MAXIXE VARIATIONS.

This cabaret impersonation, though, if you could so call it, was classy without being classical—which is the highbrow designation of anything far-fetched.

Reggie Ellison and Cissy Armitage gave interpretations of all the different dances, ancient, medieval, and modern. The Misses Arbuthnot executed well-chosen selections from the old masters, on a variety of musical instruments, with charming grace and abandon.

Young Percy Armitage then performed an astounding series of remarkable magical and sleight-of-hand tricks such as making a handful of pool balls disappear, changing boiled eggs into flags of all nations, disinterring white rats from the ladies' hair, and finding live pigeons, guinea pigs, setting hens, potted palms, and similar irresistible miscellany in hats. Then Stella Dupont-Skaggs elocuted dramatic extracts from the Elizabethan poets to the great electrocu—I mean the delectation of all present.

I enjoyed the whole show hugely. I've coughed up a quarter many a time for a seat in a regular theater to see lots worse. The dinner, too, was delicious as well as nutritious. I positively enjoyed every bite of my dinner.

When the dancing began in earnest, later, I threw aside all stiffness and restraint, and became the life of the whole party. When I set myself to it, droll's no name for my capers. Dear old P. Q. Armitage himself, having looked in for a moment while I was doing my own original version of the tango trot with maxixe variations, lost control of himself and had to be helped out of the room.

Then a most disconcerting thing happened. Something that clapped a damper on the merrymaking and snuffed out the glad light of happiness from one hundred laughing eyes.

The shrill, sharp shriek of a beautiful woman in distress smote, like a bugle's blast, our startled ears.

In the ensuing instant of wild alarm and excitement I, alone, remained calm and unperturbed—half-hidden behind one of the gingerbread pilasters in the runway connecting the rotunda with the mausoleum, or whatever you call it, where Armitage keeps the Sargents and marble plaques of his ancestors, also the ashes of his favorite dogs that have gone hence.

Keeping calm enabled me to grasp the situation quickly. It was Mrs. Fairleighbridge who had screamed. She stood a few paces from my vantage-point and told her side of it in a loud and somewhat brassy tone of voice.

She said that she'd missed a pearl necklace of incalculable value and magnificence, admitting that its loss had for a moment upset her.

An immediate, painstaking search was instituted; but to no avail. The jewels couldn't be located anywhere.

Mrs. Fairleighbridge gave way to some slight annoyance.

"I've been robbed!" she declared arbitrarily. "Robbed here—in *this* house—not ten minutes ago! To think that I came here—among these—in this mixed company, to be the victim of a vulgah pickpocket!"

"It is, indeed, terrible, dear," sympathized Mrs. Armitage, her eyes flashing. "Your necklace? I thought I saw you wearing it—the pearls were genuine, were they not? One is so much attached to their jewels—at first, aren't they?"

Mrs. Fairleighbridge attempted a suitable rejoinder, but couldn't conceal her vexation. She departed soon afterward, after voicing a few rather pointed allusions. She hinted that she had been served right for coming, in the first place.

"It's really too bad that it should 've happened at *your first party,* dear Mrs. Armitage," she purred. "Please don't let it weigh upon your social ambitions."

Honk was disposed to advance certain ridiculous theories, on our way home, regarding the disappearance of the necklace: (a) The lady might have dropped it in her limousine, *en route* thither; or (b) she'd left it on her dressing-table at home; or (c)

maybe she'd never even owned a necklace at all, and the whole thing was bunk, pure and simple.

Frankly, I couldn't seem to get interested. Mrs. Fairleighbridge's pearls, real or imaginary, created no ripple in the placid pool of my meditations. 'Twas nothing to me.

On Tuesday following we participated in another splurge. Mrs. Fairleighbridge was giving a husking bee and barn dance in the big stables at The Pines, and had spared no expense to make the event one of the triumphs of the season. No smallest detail was overlooked to make the bucolic atmosphere true to life to the last carefully placed wisp of hay.

I'd love to elaborate here, to dwell lengthily upon the scene—the electrically illuminated pumpkins, the husky lads and apple-cheeked lasses, the piles of golden maize, the barrels of cider, the trained animals—dogs, pigs and ponies, imported specially to amuse us by their antics—the village string band, everything, in fact—only I haven't time.

When the search for red ears (of corn) was beginning to get interesting, something happened, as usual.

There suddenly resounded through the vast chamber in which the joyous company was congregated the rich, contralto tones of a woman's cry of dismay. All festivities instantly ceased. Strong men gawked and fair maidens necked from their low-necked frocks.

It was then that we discovered that Mrs. Armitage had been the one who raised the disturbance. She quickly explained the meaning of her unaccountable behavior.

"My diamond bracelet," she exclaimed in a voice of tragic despair, "is gone! And so is my Empire brooch that belonged to Great-grandmama Armitage in the sixteenth century!"

Her statement sounded a little anachronistic to me—but one can't always be correct to the last minute.

"Some one has robbed me!" she prima-donnaed resonantly. "Here, now, in this barn, not five minutes ago! Guard the entrances! The thief must be among us still. He—or she—cannot have escaped so quickly!"

Of course, a search was made, but nothing came of it except that the rest of the evening was spoiled. Everybody was too busy looking out for their valuables to enjoy themselves. I, for one, kept one eye on my new three-carat solitaire ring—rather nifty little trinket I picked up one day at an auction—my other eye I played impartially on anybody that came near me.

Mrs. Fairleighbridge's barn dance turned out a fiasco. Even Honk noticed it.

"Horace," he remarked later, "that certainly was a poser for Mrs. Fairleighbridge. The way it turned out, she was put in the false position of having made a faw paw when in reality, she was entirely blameless."

"Faw paw," I repeated. "What's that?"

"Come, come, Horace! That's French, meaning a trip-up, a stumble, a bad break."

"Oh," said I, snickering, "I see. You mean fox pass."

That was the beginning of a long series of daring and inexplicable pilferings that marked every social gathering throughout the season. A clever crook seemed to have chosen Valhalla for his permanent place of residence and was having the time of his light-fingered life, apparently. None of your ordinary porch-climbing, jimmy-juggling, lock-picking prowlers, who heralded his presence with the crash of breaking glass or the tintinnabulation of falling tinware, and then fled, leaving a trail like that of a forty-mule borax wagon behind—no! Not so a critical eye could distinguish it.

The thief was a wonder. He flitted freely among us, taking toll of all;

frisking friend or foe alike without fear or favor; lifting a stickpin here, an earbob there—in ball-room, billiard-room, boudoir, annexing tiaras, studs, sunbursts, pendants, watches, cuff-links, all manner of priceless gewgaws, with an impudence and familiarity that was exasperating to a degree. It got so a gold tooth wasn't safe in a person's mouth.

The best talent obtainable among the local constabulary was called in, early in the campaign. All breathed freer—for maybe fifteen minutes. And then, at a musicale given by the Colonel Allyns, some four or five persons were relieved of everything they had with 'em that wasn't glued on.

Then the unknown turned his attention, momentarily, to the village Vidocqs who were supposed to be on the scent. One by one, the stupid sloughfoots of the provincial police force were touched of their official stars, their billy-clubs, brass knucks, handcuffs, Derringers, loose change, or whatever else they chanced to have

"MY DIAMOND BRACELET," SHE EXCLAIMED IN A VOICE OF TRAGIC DESPAIR, "IS GONE! AND SO IS MY EMPIRE BROOCH THAT BELONGED TO GREAT-GRANDMAMA ARMITAGE IN THE SIXTEENTH CENTURY!"

ALL THE DETECTIVES GOT GENTLE REMINDERS OF THE UNKNOWN'S PLEASANT ESTEEM.

on their persons. At the same time, he was careful not to leave the slightest clue.

Your common, or truck-patch variety of detective demands at least a trampled flower-bed or a gap in the hedge on which to focus his magnifying-glass, or else he's stuck fast with his plowshare snagged under a root, so to speak. Hence, our home-grown Hawkshaws began nonplused and ended completely bilked.

Several of the heaviest losers got together then and offered rewards running into five figures. A corps of professional sleuths from the original stamping-grounds of Old Sleuth himself blew in from all directions to make short work of the matter. More mishaps happened immediately.

One of the newcomers lost his suit-case containing all of his grease-paint and false whiskers except what he had on, within ten minutes after getting off the train. That put him out of the running, of course, for a detective undisguised is like a spook without a shroud, he has lost his efficacy.

A second perfectly good robber-catcher, having assumed the rôle of butler at the Dupont-Skaggses, was found wandering in an arroyo, hobbled, with hands tied behind him, and securely sewed up in a large sack. He said that he was awakened thus from what must 've been a drugged sleep. He boarded the next train East, with a hunted look in his eyes.

In turn, all the detectives got gentle reminders of the unknown's pleasant esteem. This one was discovered with Harry Higgins's watch in his pocket, that one found chained to a telephone pole, dressed in a princess slip which, investigation disclosed, belonged to Aunt Manda, the Carter Finleys' colored cook.

Still another poor boob-in-the-

woods, who had ostensibly signed on as Armitage's chauffeur, was rescued one morning from the Sunperch Pool in Plaza Park, where he was floating around securely trussed to a pair of non-skid tires, but otherwise unattired. He retired from the ferreting rather precipitately, as soon as released.

None of these incidents caused more than a passing thrill of mild amusement in my manly bosom, however. It all seemed rather ridiculous to me, to say the least. A whole smart set upset over the petty pilferings of a lone sneak-thief, police emissaries baffled, and the newspapers devoting columns to what they called "this unchecked carnival of crime." I shook my sides over it frequently.

'Tis true I had to profess a perfunctory interest and sympathy when Doc Pillsbury had his fine ball-bearing, self-starting, automatic stop-watch which, he said, cost him a cool five hundred, swiped at a theater party—still a man's a monkey to pay that much for a timepiece anyhow, and deserves to get gaffed for trying to show it off.

And when Honk, the ineffable sillykin, set up a deafening yammer one night because his pet cameo cuff-links came up missing together with an opal stickpin, I couldn't resist the inclination to indulge in a well-bred smile.

"I c'd stand the loss of the links," he post-mortemed, "but my opal represented a considerable lump sum of cash money. A fellow can't help regretting a loss like that—"

I searched my pockets and dug up several tobacco tags and plug-cut coupons. "Here, take these," I bade him; "it won't take you more'n a month to save enough to get you another outfit of phoney jewelry, as good or better than this lot you've lost."

"*What!*" he bellowed. And then, my gracious me! You ought to 've heard him read my title clear.

I repeat that my interest was forced up to the night I lost my three-carat ring—at an Ibsen recital, I believe they called it—at the Fisher van Brummels. Laying all jokes aside, the man, woman, or spook who removed that ring from my finger without my knowledge, and me quite self-possessed and unexcited the while, was some expert at his chosen trade, if you don't care.

I do have a faint recollection of dozing off inconsequently once—the room was a bit stuffy, and I had dined both well and wisely—but I know I didn't sleep ten minutes; no, not even five minutes. But my magnificent ring, worth a king's—aye, a pair of kings'—ransom, was gone! Wo me.

When I actually realized that it was undoubtedly missing; that, in other words, I no longer had it, I—well, I guess, I made quite a stir, by and large. Some went so far as to tell around that I insisted on making an issue of the matter then and there, refusing to be robbed, as it were, and demanding the right of searching the persons of everybody in the building, whether I'd been introduced to 'em or not; but I don't wholly credit this version. I did take an inventory of the pockets of those nearest me before I regained my poise and insouciance, but that was all.

The more I thought about it, the—er—more I thought about it, too. And to think, with me, is to become suffused, or, as 'twere, saturated, with thought. I announced my position to Honk as soon as I got it straightened out in my own mind.

"This thieving business has gone far enough," I said shortly. "Mr. Gem-snatcher has at last overstepped the imaginary line which separates jest from deliberate mischief. The proposition has ceased to be funny. It has suddenly become serious. Petty sneaking of shirt-studs, and the various baubles with which women bedeck themselves to gratify their silly vanity, is all well enough; but grand larceny is something else again yet, as the old woman said when the cow kicked her

and then stepped on her foot besides. The person or persons unknown who copped my sparkler have got themselves into it a plenty. They'd much better 've tied a grist-mill around their neck and took a high dive into the deep, blue sea, as the poet put it, for odds and ends of paraphernalia I'd need in carrying out my investigation. Details are depressing. Nobody cares much how a thing is done so long as it is accomplished without too much mess. One Die-it is worth a hundred This-is-how-I'm-about-to-do-its.

WHILE SECRETED IN AN UP-STAIRS ROOM I CAPTURED A YOUNG WOMAN.

Nemesis is now about to take the trail."

"Huh? Nemesis—who?" queried Honk.

"Me!" I said, thumping my chest, chestily.

Honk cackled with unconcealed irony. "Take a headache tablet, and try to forget it," he advised. "Back to the buzz-factory, my boy, you've got growing pains in your garret. Nemesis! Oy, oy, oy!"

"Nemesis is right," I maintained, scowling, and with that I busied myself at arranging in order the trifling

In passing, I'll touch lightly on such points as stick up in the story high enough to impede traffic. Even Honk concedes now that I'm a little bit of a marvel, detectively speaking, albeit Honk is more conservative even than a native Missourian. After having had ocular proof of a thing, I've heard him brazenly contend that the dust in his eyes had obscured his vision. But this was where a dazzling ray of light penetrated his blindfold of green moss, all right.

I attacked the tangled web without delay. The long-drawn sequence of

stealings was already stretched, rubber-band-like, over a period of months. March had gone out like a lamb some little time before to make room for a mild, moist April. It was what you might term the open season for catching things—colds, chilblains, and catarrh, as well as crooks.

For all that I racked right into the thick of the matter regardless, beginning that night at the Fisher van Brummel home.

Adventures seemed to lurk ready for me on every hand. I stumbled over a cop asleep in the shadow of a house that I was shadowing. The blockhead chased me, firing his old-fashioned revolver at intervals; but I led him into a private alley and cul-de-sacked him.

A suspicious sound I took to be a pneumatic drill in action put me on the qui vive, later. This turned out to be the van Brummels' butler dreaming of dear old London with his muffler cut out and bedroom window open.

I spent the night getting the lay of the land at various domicils where lootings had occurred; tedious preliminary work, of course, but essential. Just as the anemic light of dawn straggled over the moors, I thought I'd made an important discovery.

I saw a figure skulking in a field. The fellow was either burying something or digging it up. I kept him under the magnifying-glass for an hour before I determined his fell purpose. The ruffian was, doubtless, a gardener, and was trying to catch a mole that was uprooting a meadow.

I recall also the incident of the Arbuthnots' maid. While secreted in an upstairs room, probably a boudoir—I was keeping an eye on a jewel-case which contained nothing but face-cream and rouges, I found out later—I captured a young woman. It was one of the maidservants, in search of chewing gum, forsooth.

My adventure with a footman at the Higgins home, another false clue, may be skipped likewise. What he had under his fatigue jacket was only a roasted chicken, pie, salad, bottle of cordial, etc., he was conveying surreptitiously to the servants' hall.

Meanwhile days danced onward with tripping feet. My friend and others were being frisked of their treasures right and left, but the frisker continued to elude me. The case was quite the most baffling of any I had ever undertaken, by Jove! But persistency rarely fails of its ultimate reward.

"Here's a jolly idea," quoth Honk one day, passing me a cream-colored missive he'd received by post. "Original, don't you think?"

I read the card enclosed in its envelope—a plain, engraved slip, unwatermarked. It did convey something of an odd invitation. In substance, as follows:

"Le Seer, the Master commands your attendance, Friday, the Thirteenth, at midnight, in the Hall of Thor. The Spirits of the Dead desire to reveal that which hath been shrouded in mystery. At the behest of him who is called the Unknown, fail not!"

"Friday, the Thirteenth!" I murmured, "and to-day's Thursday. Aha!"

"Why the 'aha'?" asked Honk, with some display of curiosity.

"This Le Seer party, nicknamed the Master, is the gink I'm looking for," I said grimly. "At last I have a clue—the clue, if I mistake not."

Honk made no attempt to conceal his feelings; he roared loudly in derision. I let it pass unresented, for the time being.

A man dressed in a silk tile got off the afternoon train. I spotted him instantly as a stranger and, therefore, a person to be suspected and watched. I took his rogues' gallery measurements. Smooth-shaven; well-fed; eyes greenish-brown; hair black; hands white, soft—joint of left index

finger missing. . . . Registered at Palazzo as "Le Seer, Cairo." Neglected to state whether Egypt or Illinois. . . . Very uncommunicative.

Just as the gloaming whistles were blowing, Friday evening, an oldish gentleman, whose features were ambushed in a coppice of white heather, who wore a duster and blue goggles, tendered to me (in one of my official capacities) a good-sized, pasteboard box, consigned by prepaid express to "Lulu La Cyr, Skinner's Junction, Okla."

All right—still, the package seemed pretty heavy for its weight, and—a joint of the old party's left index digit was absent. In one of my unofficial capacities, I saw fit to inspect the shipment for the sake of safety first.

Inside the box was a black, alligator bag, over which was stuck certain foreign hotel labels, such as "The Wurst, Berlin;" "Tipall's Inn, New South Road, Traveler's Backtack West, London, O. Q.;" "The Vampire, Rue Saint Vitus, Paris," and "The Brigandage, Bridge of Sighs, Venice."

Musing, I peeled off one of the stickers, whose corner had worked loose. A new puzzle confronted me, namely, the initial letters, P. Q. A., stenciled on the leather underneath. Now, P. Q. A. might signify a thousand blooming things. A name, a state of mind, a secret society, a firm of manufacturers, a problem in trigonometry, a—

At 11.23 p.m., I convinced myself that I had the correct answer. Smiling under my breath, I betook myself to Thor's Hall.

An awed and rather tremulously expectant company was congregated in the big auditorium; a mass meeting of the One Hundred, in fact, staring, in the half-illumination of dimmed lights, at a stage set in black velvet. The funeral solemnity of the scene, the mystery, the dark shadows, the brooding silence, all were quite impressive. I suspected that many were getting the precious thrill, which is so illusive and, withal, so much sought by tired and bored society folks everywhere. A new thrill is considered worth the price, I am informed, whatever it costs.

Midnight struck amid a hush so profound that one could taste it; but nothing happened. The audience waited breathlessly for ten minutes. Then somebody sighed. It sounded like the rush of a mighty wind in that profound silence.

A young man sitting near me suddenly turned pale and fidgeted nervously in his seat. It was Percy Quincy Armitage, Junior. He seemed to be laboring under some disquieting emotion or other that, in the course of time, would end in an outburst.

Under the circumstances, I decided to start the seance without further dilly-dallying.

I rose quietly and made my way without haste or hullabaloo in the gloom-haunted stage where, before the mystified gaze of those present, I placed a black, alligator bag on the floor and proceeded to remove my coat and turn back my sleeves in true professional magician fashion.

A stage hand in the wings, probably acting on his instructions, touched a button and flooded the whole place with light so blinding that it made me blink. I was only disconcerted for a moment, however.

"Friends, remains, country people," I began—in hollow accents at first, but my voice gaining volume as I warmed to my theme—"you came here tonight expecting to see Le Seer, the Master, and his Marvelous Performing Spooks. You don't see him. Pardon me if I explain. Le Seer is gone; never to return. Urgent business called him on the seven-seven train West, this evening."

At this point young Armitage leaped to his feet, gasped, grimaced unintelligibly and—sat down again.

"The professor left," I resumed, "by a devious and roundabout route, for Skinner's Junction, Oklahoma, where, my control has informed me, a painful surprise awaits him.

"I am happy to be able to report, however, that I've had a heart-to-heart conference with the spooks, and I bring you interesting news from the front. During the past few months we have been at the mercy of an adroit and clever crook, so termed, who touched us for our valuables without let or hindrance. 'Twas a puzzle that defied solution. I have solved it." (A sudden burst of enthusiastic applause. I bowed my thanks.)

"It was all part of an original and entertaining scheme to amuse us. A certain person among us, who I shall not name, devoted his spare time during the recent social season relieving us of our jewels and other trinkets, in order to gather sufficient material for his grand, final, closing climax to-night. It was a triumph of cleverness: to call in the aid of departed spirits and restore to each person his stolen property.

"Since the ghost-director has flown," I went on, flirting my salary wing carelessly so that the magnificent solitaire on my middle finger gleamed like a bicycle headlight, "we'll have to do the best we can.

"In this bag I have, neatly tagged and ready, a token for each and every one of you. Before we begin the show I really must appoint some one to assist me." I pretended to deliberate. "I'll ask my young friend, Armitage, to come forward in that capacity," I finished with tact and astuteness, "and we will present for your delectation our little act entitled 'Restitution, or You Never Know What Fate Has Up Her Sleeve.'

"The same will consist of sleight-of-hand and spiritualistic illusions mixed—"

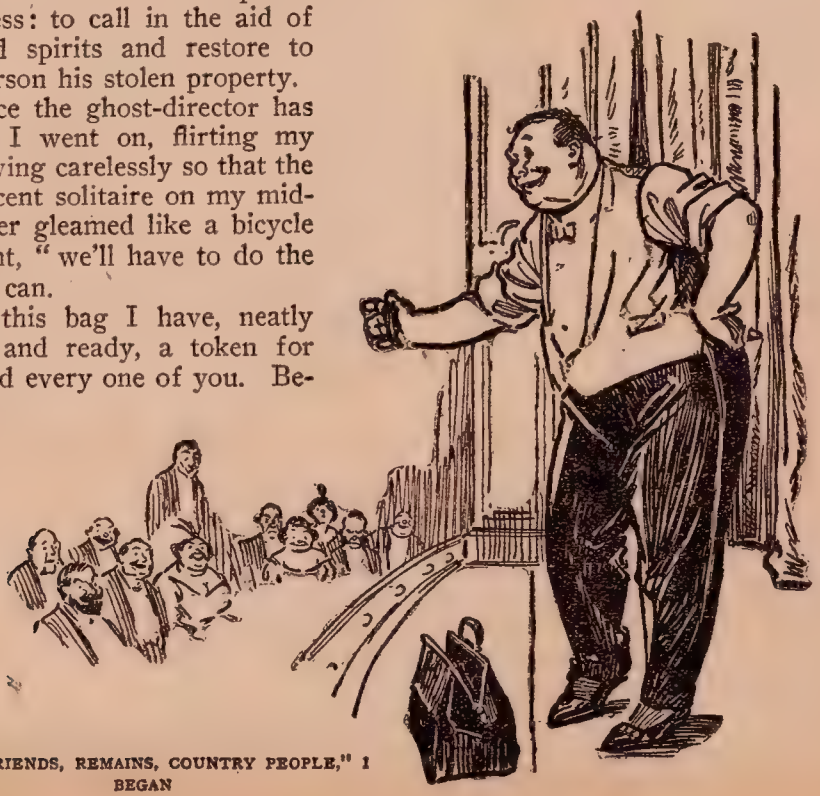
Somebody tittered.

Exclamations resounded followed by loud and prolonged applause as young Armitage passed sheepishly up the aisle.

I bowed again, reached for my plug to take a chew, remembered myself, and refrained.

Then laughter and gaiety reigned supreme.

Oh, I'm some success, when it comes to starting something.



"FRIENDS, REMAINS, COUNTRY PEOPLE," I BEGAN

Spike Malone as a Student.

BY JOHN C. RUSSELL.

He Tells Rusty of the Time When He Learned to "Keep Her Poppin'."

PIKE MALONE watched a fireman attired in a conspicuously new suit of overalls and a shiny leather cap trying with indifferent success to gather up oil-cans, waste, lanterns, and various other supplies from the step of the supply house. He turned to me with a large smile and, nudging me with his elbow, pointed to the youth with his troubles.

"Student!" Spike remarked. "Shows it, too; don't he, Rusty?

"Does you-all rem'ber, away back in the dark ages when you first negotiates a job of wages on a railroad, the stunts that you has to buck up against before you deems yourself wise to the game? 'Cause if you don't the mem'ries of them halcyon days shore lingers with me to a scandalous degree! Lemme tell you-all of my first jump into this here railroad life.

"Takes me about six months 'fore I allows that in point of wisdom regarding things railroad I'm shore as profound as prairie-dogs, but, in the mean time, I gathers a heap of experiences that leaves an impression on little Spike.

"Rusty, when I first elects to butt into the life of the care-free fire-boy I'm that green I shore discourages any fire from burning merely by casting me eye over the grates. Yes, sir; the degree of my verdancy is exalted to that extent I ponders since why it is cows don't nibble at me when I ambles past the pastures.

"Still, I acts like Solomon in my own estimation and furnishes unlimited amusement for the boys with whom I elects to cast in my lot. Yes, sir; that gang derives a heap of merry laughs at my expense, and me none the wiser.

"Happens like this.

"Back in Arizona—where I'm a happy cow-punch living the simple life of the open range, a-herding cows and a-riding line once in a spell—locomotives and sich is utterly foreign to my imagination; but one day I'm a party to considerable of a drive from the home corrals down to Dennison where we embarks these here beeves onto a Santa Fe stock-train.

"'Course I has seen, at one time and another, these here railroad trains a-rambling past where I'm riding herd on a mess of long-horns; but as far as the inner workings and mysteries of the bullgine and cars attached thereto is concerned, I'm plumb ignorant.

"But this here is a state mighty easy to remedy. While the rest of the layout is sweating and inhaling the dust from the pens while they wrastles refractory steers aboard the stock-racks, I proceeds to gratify this thirst for information concerning things mechanical, and me and the fire-boy on the mill what's spotting said cars gets chummy no limit.

"Moreover I waxes that enamored of this 'gine that when we leaves for the stock-yards of Kansas City I pervades the inside of that loco like a pestilence. The questions I propounds to the long-suffering hoghead shore qualifies me for the prize as a pet nuisance.

"Finally this hoghead person ups and gets a-plenty weary of handing me information and denotes me some advice 'bout like this:

"'Son,' says he, and his tones conveys the hint that as far as any more answers to my fool questions goes he's good and done. 'Son,' says he, 'if you-all is so anxious to acquire all the sabe there is about one of these here hogs, why don't you-all drop off at Alberquerque and hit the old man up for a job o' firing? He's a whole heap hard up for fire-boys these days, and, as the boys says, all you needs for qualifications is a strong back and a weak mind, I shorely allows that you'll qualify a-plenty.'

"With that he hangs his head out the window and leaves me to digest these here remarks he so cheerfully confers. I don't aim to say a lot right there, but the longer I mulls that idea over the more the scheme seems to tickle my fancy, until I shore deems it's me for the tallow-pot job as soon as I can make tracks therefor.

"When we hits Alberquerque in the still small hours of the morn' I searches out my warbags from the doghouse and does a grand sneak, without disturbing the rest of the gang, up Railroad Avenue for a hostelry I spots afar off where I goes in the hay till morning dawns.

"'Long about nine I rolls out and beats it for the roundhouse, where I pesters round quite a bit before I gets up sufficient nerve to tie into some greasy mechanic I sees pottering about.

"'Mister,' says I, putting on a heap of dog, 'will you-all kindly intimate to me where I can find the boss of this here roundup?'

"This hombre glances up at me, grunts a grunt that seems more like a large-sized cuss word, and jerks a dirty thumb over his shoulder. I moseys in the direction he indicates and runs up against a little, old shack built on the ground in one corner of this roundhouse.

"It says 'General Foreman' on the door, in yellow paint, so I shorely deems I've arrived at headquarters.

"Inside there's a kid about 'steen years old very busy doing nothing at all. Buttin' in, I inquires where I'll see his niblets. The kid hands me a chair with one of his unoccupied feet and tells me that the big boss will be in shortly, and there I sits for plumb an hour before that walloper shows up.

"He breezes in cussing high, wide and handsome, and as soon as he shoots a bunch of gab at the kid and that worthy has lit out of the shack like he was running from a cop, he turns to me and demands, in no uncertain voice, what the merry so-and-so he can do me for.

"I horses myself up onto my number tens and tells him that I has horned into his sanctum on the bare chance of hitting him up for a job of firing, but that if he is feeling extra murderous this morning I can very well put it off. At that he grins and motions me to set down.

"'Ever fire any?' he asks.

"'No, sir!'

"'Humph!' says he very solemn.

"'Whatcher been doing?' he asks.

"'Punching cows,' I tells him, and gets another grunt for reply.

"'What's the idea of goin' firing?' he asks.

"'Aw, I dunno,' I tells him; 'just took a notion thataway.'

"'All right,' he spits out, 'fill out these blanks and tell the roundhouse foreman to fix you up. I hope you either stay with the job long enough to be of some good to me or else git sick enough of it to quit when you git into town. These here two-trip-and-

a-half boomers has got me away up in the air. To-day I has an extra board a mile long, and to-morrow I has the call-boy out hiring hoboes to git the trains out o' the yard.'

"With that he slams his hat onto his head and beats it into the house hollering for some walloper most strenuous. I takes a good breath.

"I fills out these here blanks he confers on me and, hunting up the roundhouse foreman, hands 'em over to him. He glimpses them over, looks me up and down with a mean grin, and marks my name up in chalk on a blackboard.

"'You're four times out,' says he. 'Go home and git to sleep. I'm a-going to use you before the night's out. Leave your address with the call-boy and git yourself some overalls and a pair of gloves. Like as not you-all will git out with Old Schoonermaker, so, as a friend, I'd advise you to git as much grub inter you and as much sleep as you kin before you has to fight his hog to Gallup. You'll shorely need 'em both.'

"And with that he mopes.

"I does as he suggests, and, Rusty, what with my studious observing of friend tallow-pot on my trip down, I'm in arrears for the hay, so it seems less than no time before here's a call-boy hollering into my ear and waving his lantern in my eyes.

"I lights out o' the bed under the impression there's a stampede, and grabs the caller by the hair before I fully realizes I'm a slave of toil and has to hit the graft.

"That first trip?

"If I skins Methuselah for the ancient age record I never forgets that trip. No, sir; I'm shorely impressed therewith to that point that it's nights and nights before I can wake up and not find myself in a cold, clammy sweat, ghost-dancing with the memories of this here trip.

"I blows to the roundhouse after stoking up with a double order of 'ham and over' at Fred Harvey's grub emporium. After a mess of stumbling round in the dark—during which I negotiates a tumble into a pit in the house—I finally locates the mill for which the caller says I'm due.

"Not knowing any more than a rabbit what's the proper capers I'm supposed to perform, I just humps myself into them new overalls and lolls about on the seat-cushion admiring myself. However, I'm rudely awakened from this here Narcissus stunt.

"Somebody heaves a torch up into the right-hand gangway. By the light therefrom I sees the most villainous face I ever tracks up with previous. A short, skimpy body follows this face up into the cab; and here's a little, old, warped-down runt sporting the dirtiest suit of dungarees in existence giving me the once over with a most evil eye.

"'Whatcher doing up here?' he demands, most ferocious.

"'I'm the fireman!' I tells him.

"'Fireman!' he snarls. 'You're another of these here students; that's what you are! Why Johnson goes and inflicts the likes of you-all onto me every trip is something I'm shorely going to find out if I never go out on this trip!'

"With this cheerful conversation he humps hisself out o' the cab and beats it for the house, hollering most strenuous for Johnson, the night foreman.

"Bimeby here he comes just a-frothing at the mouth 'cause Johnson has smelled a mice and hides out on him. Of course he begins at once to take his affliction out on poor me.

"'What kinder mutt does you-all term yourself?' he shoots at me. "You wild-eyed student! don't you-all know enough to git an engine ready? Where's your supplies? Not a light filled or lit, either!'

"He grabs hold of a long-spouted can and shakes her. Then he busts again:

"'Ain't you even got gumption

enough to fill a hand-oiler?' he yells out.

"Take it from me, he was as sassy and full of poison as one of these here hairy red tarantula spiders what hops sideways at you.

"Now, where I come from language like that means war, unless it's all in play, and I don't discern no signs but what this old coot means her on the dead level; so, after I collects my breath, I hops his frame most joyful.

"Down to the deck we go, me on top, and I'm gleefully employed in rubbing his short hair full of coal-dust when some big stiff hauls me up onto me feet and demands the cause of the trouble.

"Old Schoony is too shy of wind to unfold the tale, so I narrates the causus belli to the mediator and leaves the rest up to him. Seems like he's the head-shack animal. While the old man leaves out from the 'gine on a still-hunt for Johnson, he puts me next to the game and assists me to get the bullgine ready for the road.

"While he breaks up and spreads my fire for me, I moseys over to the supply-house and routs the supply man out of the waste-bin, demanding my supplies. He loads me down with a mess of junk and away I go for the engine.

"Rusty, if I drops some of the junk once, I shorely allows I dropped the whole shooting match all over the yard before I succeeds in landing the mess on the apron.

"By the time I gets back old pickle-face is there, too, and the way he tears out of the engine-yard and round against the train busts all yard-limit rules higher'n Gilroy's kite.

"By the time he gets coupled onto the string I has the large sum of a hundred pounds and there ain't enough fire in the fire-box to light a pipe. Does this guy tender me any instructions or advice regarding what I has in front of me? Not so's you-all could notice it!

"Sits up on his seat-box, he does, and lets me fill that fire-box with green coal till you actually has to light a torch to see into it! Then when the con shows up with the tissues we comes as near being dead as anything I ever sees.

"'Let's go, old-timer!' shouts the car-captain as he pokes up the flimsies.

"'Go!' snarls sour-face. 'Go where? I ain't got steam enough to blow the whistle, let alone start the tonnage you-all has fastened on behind!'

"The con he comes up into the cab and looks for hisself.

"'What's the matter?' he asks me; but before I has time to reply the old miser on the other side squirms round on his seat-box and tells him.

"Matter enough!' says he. 'I want you to understand that I'm a first-class engineer in every respect; but Johnson has a nasty habit of digging up all the punkin-huskers and hoboes in the country to fire for me, and I'm just about sick of it! That's what the matter is! I don't give a whoop if we stay here all night! When they give me a fireman that'll make a little steam, why I'll try to get out o' town!' and he slams round on the cushion and spits out the window.

"The captain were a pretty decent sort of a plug, for he comes over and has a little heart-to-heart confabulation with me, and I explains my depth of ignorance regarding this railroading game.

"He sympathizes a whole lot and, what's more to the point, he shucks his coat and wades into the mess I makes in that fire-box to that extent that we soon has the clock a pointing to upwards of two hundred. Then our bold hogger whistles out o' town and opens up on the hog. But, gentlemen, hush!

"The way that old sinner wades into that mill was nothing short of a calamity. All I ever sabes about the

whyfor of firing is to bale the coal into the door, and, believe me, that's what I proceeds to do. All a casual observer witnesses is a blur between the coal-pile and the boiler-head where I'm making industrious play with the scoop.

"Lucky that this particular hog is a mighty free steamer or we'd gone into bankruptcy for steam almost in no time. At that there ain't no mill ever constructed that stands the abuse this one gets two ways: the way he raps the stack off'n her and the indiscriminate way I hands her her food.

"So, in the natural run of events, the mill waxes logy, and the first hill we hits the pointer starts chasing its tail towards the cellar the minute he opens up on her in earnest.

"Then he slams the throttle in, boots the Johnson bar into the corner, sets back on the cushion, folds his arms, and rips out a stream of gab that raises blisters on the boiler-head. I'm too tuckered out to notice his verbal fireworks and wilts onto a handy lump of coal to catch my breath.

"And that's the way we progresses on this trip. We stops, blows up hot again, high-balls out on our festive way for mebbe six mile or so, and here we is with a deficit where the steam ought to be. Talk about trips! This is shorely a lulu!

"Bimeby the head-shack blows over and takes a slant at the way things is transpiring, and the condition I has wrought myself into by this time inspires sentiments that verges on pity in his breast.

"'Crawl up and take a blow, son,' he says. 'Lemme fan this old scrap-pile a while.'

"As I crawls wearily up onto the seat-cushion, which shorely seems a haven of rest, this shack guy slams open the door, twists a hook around in the fire in a way I deems highly professional, and proceeds to put up a mighty nifty exhibition of fighting a fire.

"I notices he pays particular attention to the way this hogger is handling the bar, and by and by he raises a wrath ag'in' the sinful old specimen sitting on the right-hand side.

"Pretty soon his pop lifts and he hops over to the hogger.

"'You blamed old nuisance!' he yells. 'You work this mill like she's due to be worked. The way you-all is lamming the stuffing out o' her, there ain't no smoky living could make the putty! Ease off on that bar!'

"I don't know whether the hog-head is bluffed by this here display of animosity; but it is a fact that he does ease down to a considerable extent, and we drags our weary way into the next siding.

"There Mr. Engineer proceeds to crawl down and send some wire to the despatcher about the scandalous state of affairs existing on this particular train; but all he reaps in the way of consolation, so the shack subsequent informs me, is a message to go on with the fireman he has—meanin' me—and git that train over the road a whole lot faster than she previously ambles or to prepare for a seance with the old man on arrival at terminal. Which, of course, adds fuel to the flames—and I reaps the benefit.

"Oh! she was a jo-darter of a trip, all right!

"While we're in the passing track the old reprobate directs me to hoe out my ash-pan, this being before the days of the air ash-pan, dumps, shakers, and such like luxuries the pampered fire-boy of to-day deems a necessary adjunct to locomotives.

"Also there ain't no sixteen-hour Federal law playing nursemaid to us railroaders by a long shot! So down under the bullgine I goes, armed with a hoe 'steen feet long and as heavy as the burden of sorrow, and proceeds to more or less remove the mess of cinders and clinkers from the pan.

"When I emerges therefrom, cov-

ered with honest sweat and a large share of the company's ballast, I finds instructions from the hogger to wax industrious and remove from the firebox a clinker that ain't a bit short of being the great he-grandaddy of all the clinkers that ever breaks a fireman's heart.

"And, Rusty, I toils for hours and hours, seems like, extracting that young mountain from the grates and getting some fire placed over the vacancy she leaves. Then his hogship announces we is ready to go. But not me.

"Right there I declares myself.

"'You durned old wolf!' I informs him, 'you-all may be a heap ready to continue on your joyful way, but, take it from me, I ain't! I've got to straighten out a million kinks from my back, get a mouthful of wind, and blow a bit before I'm due to make motions at that fire; you hear me shout! If you-all deems it high time to continue the motion, you hops nimbly down here on the apron and do a little of this hard graft yourself. The hardest labor I yet witnesses you perform is to work up a heat cussing me, and from now on we has nothing but silence from you and mighty little of that! When I'm ready I'll notify you!'

"With that I sort o' drifts down onto the ground and stretches out 'longside the rails for a rest. Then the con blows up with a large, husky, square-built chap in tow and prods me with his foot.

"'Come on, Buddy, let's get out of here!' he denounces, but for all the effect his talk has I might just as well be dead.

"The big guy reaches down and heaves me onto my wabbling pins.

"'What's wrong, son?' he queries. 'Git into the mill and let's go from here!'

"Traveling hogger he is, I learns later. Name is Anderson.

"I don't sabe who you-all is,' I hands him. 'And I'm too tired to argue with you; but before I attempts any more of this labor I'm going to get my wind. I'm all in, besides being dead and starved into the bargain.'

"So I rolls out of his hands onto the ties again. Then the head-shack blows up and proceeds to unfold his little tale to this large hombre, who listens most careful and starts up into the cab.

"Pretty soon words and words comes floating out of the window, and I revives sufficient to take in the gist of the conversation. This big hombre hands my hogger the original pattern for all the roasts that ever happens and then hollers for me to come to life. When I hits the cab he proceeds to oversee my work until we hits Gallup. Also he hands me a heap of good advice which I since finds useful.

"But tired! Rusty, I mopes up to the Harvey House and orders a stack of wheats and maple sirup; but, as I'm a living sinner, I'm that near dead to the world that I falls asleep eating them and tumbles over with my head in the plate.

"The shack puts me to bed with a wheat-cake stickin' to my alabaster brow, which same I finds there when I wakes. That's how all in I gets.

"And I expect that this here is about the usual run of trips that the student usually reaps along in them days, at that.

"How about it, old-timers?"

In the December "Railroad Man's Magazine" Spike Malone will keep her up to the 200-mark while he tells about "Tests."

MAIN LINE MATTERS

Some Important Railroad Subjects Picked Up On the Great Right-of-Way of Progress.

LOCOMOTIVE WITH DIESEL ENGINE.

Compressed Air Used Up to Six Miles an Hour, Then Oil Is the Fuel.

THE first locomotive with Diesel engines made its trial run recently on the Swiss Federal Railways between Winterthur and Romanshorn. The main Diesel engine develops about 1,100 horse-power, and is of the reversible two-stroke type, single-acting, with four cylinders, coupled in pairs and inclined at an angle of 90 degrees to each other.

The cylinders drive an intermediate common crank-shaft with disk-cranks coupled to the driving-wheels by outside forked connecting rods. The cranks are set at an angle of 180 degrees, and the driving-wheels are counterbalanced. This is a most important condition when placing such engines on a moving platform. To run 60 miles an hour the engine has to make 304 revolutions a minute.

The driving-wheels are 5 feet 8¾ inches in diameter. The end bogies have each a wheel-base of 7 feet 3 inches, and the centers are 34 feet 6 inches apart. The locomotive has an overall length of 54 feet 6 inches and a weight in working order of 95 tons. The cylinders are 15 inches in diameter, with a stroke of 21¾ inches. There are four valves to each cylinder; one for oil fuel, which is injected under a pressure of 50 to 70 atmospheres; a starting-valve to supply air at about 50 atmospheres, and two low-pressure air-scavenging valves, working at about 20-pound pressure. The valves are driven by two loose eccentrics, one to each pair of cylinders. To reverse, the eccentrics can be thrown over.

An auxiliary air-compressing engine of about one-quarter the power of the main engine works two horizontal compressors, the right-hand end of the cylinders of which furnish low-pressure air to a smaller cylinder, whence high-pressure air necessary to start the main engines, as well as for fuel injection, is provided. The low-pressure scavenging air is compressed at the left-hand end of the compressor cylinders.

When the locomotive is not working the compressor can be used to charge a battery of air reservoirs placed at the side of the engine. Between the cylinders of the main engine are two double acting pumps and a three-stage air-pump. This air-pump acts as a reserve for the auxiliary compressor and, if necessary, could keep the locomotive at work for a time.

There are two fuel-pumps, also pumps for lubrication and water for cooling. The Westinghouse brake is fitted to all wheels. There is also a hand-brake for the drivers.

In starting the locomotive the engine is worked by compressed air until a speed of six miles an hour is attained, when the air-valves are thrown out of action and the engine then works on oil, speed and power being regulated by the oil fuel feed and air injection.

Dr. Rudolph Diesel, the inventor of the engine, disappeared from the steamer Dresden when crossing from Antwerp to Harwich on the night of September 29, 1913.

EIGHTY-NINE TRIPS ON TIME.

Speedy G. N. White Flier Makes Unique Record Carrying Uncle Sam's Mails.

THE world's fastest long-distance train — the White Flier, transcontinental mail-train of the Great Northern Railway—has established a record that is phenomenal in the annals of the United States postal service. It has made eighty-nine consecutive trips on time between St. Paul, Minnesota, and Seattle, Washington.

This new mark in the carrying of Uncle Sam's mail was made from April 17 to July 15, and the record is all the more remarkable in view of the fact that during those eighty-nine days the White Flier had to make up a total of seventeen hours and fifty-five minutes lost time by waiting for the Chicago connection, which delivers the mail to it in St. Paul. On one occasion, for example, the White Flier left St. Paul two hours and thirty-nine minutes late. Even that handicap did not mar its clean-score record, for the mail was delivered in Seattle on the dot.

Postal authorities in Washington, mail clerks, and government mail-department superintendents all declare the record of this train is unprecedented in the history of the postal service.

The greatest single accomplishment of the Great Northern's White Flier, perhaps, was the shortening of the time of mail delivery a whole business day between New York and eastern points to Seattle, as well as between Chicago and Seattle and the Twin Cities and Seattle.

It is 1,814 miles from the Twin Cities to Seattle, and thirty minutes of each day there is only one of the White Flier fast mail-trains on the road, Monday's train arriving in Seattle thirty minutes before the departure of Wednesday's train from St. Paul.

The scheduled time for the White Flier from St. Paul to Seattle is forty-seven hours and thirty minutes, or an average of about forty miles an hour. This is the fastest long-distance railroad operation in the world, notwithstanding that the Great Northern Railroad's right-of-way extends over the two greatest mountain ranges of the continent—Rockies and Cascades.

The schedules of the mail-trains making the transcontinental link with the White Flier are as follows: from New York to Chicago, 968 miles, twenty-three hours. From Chicago to St. Paul, 410 miles, nine hours and twenty minutes. The White Flier was put into service September 28, 1909, and has never been off the track but once, and that was due to the breaking in two of a "foreign car" in the train. No one was seriously hurt in this accident. The White Flier now is made up of steel cars exclusively.

THE MAN WHO SOLICITS FREIGHT.

Besides a Pleasing Personality He Must Know Every Freight Schedule on His Line.

THE man who solicits freight must have a knowledge of goods and prices. He must know the schedules of all freight-trains on his road and their connections with other lines. If you ask him about a shipment from New York to El Paso, for instance, he must tell you what will be the best and quickest routing and be able to convince you that his line should get its share of the haul.

He must have both local and through rates at his fingers' ends and must know the intricacies of classification. It may be that a commodity rate will be applicable. If quick delivery is not essential, perhaps he can figure a combination of rail and water transportation that will save you money. In short, the experienced freight man, whether in the office, on the street, or on the road, is at the service of any shipper. He is the business-getter of the freight-department, and as such he should have a wide acquaintance, be in touch with all classes of industry and all sorts of persons, and have a pleasing personality.

He must keep a sharp lookout for all possible business. Freight men are close readers of newspapers and trade publications. From their pages they glean hints of future business. From their wide acquaintance they receive other "tips." If, for instance, they hear of contracts that are likely to involve the transportation of a quantity of material, it is their business to be on hand almost before the ink on the signatures is dry and to solicit the men who control the routing of the freight until they obtain the business or are refused.

Some roads make it a rule never to let a man solicit freight until he has had a long apprenticeship in a local freight-office. Others promote clerks from the division freight-offices. When first promoted they are simply despatched to see customers who have asked specific questions. They are supplied with the necessary information and cautioned not to make any statements if they are in doubt. They must always play fair.

A young man just out of the division freight-offices will be paid $65 or $75 a month. When he has learned his job, he will probably be advanced to $125 or $150 a month. The best freight solicitors, naturally, get the largest salaries. If a man shows extraordinary ability the keen-eyed freight-agents of other roads will soon know it, and are likely to make him an offer to transfer his activities.

Of late years another field has opened up to the experienced freight man. Many large business houses and manufacturing concerns now employ traffic managers to route their freight and audit their expense bills. They pick these men from the ranks of the railroad. In the employ of these commercial concerns these freight men become the buyers of transportation for their employers. They are the expert purchasing agents of that commodity.

They receive, as a rule, larger salaries in such capacities than are paid by the railroads. The railroad men like to deal with them, just as one expert likes to do business with another. A man of this sort in the employ of a business house receives from $2,500 a year up. Some traffic managers of great industries receive $10,000 a year, and a few $20,000.

WHEN MATERIALS WERE TRUSTED.

William Marshall, Still Living, Is the Pioneer of Construction Inspectors.

IN the days of Matthew N. Baldwin, Thatcher Perkins, Ross Winans, and many other pioneer locomotive builders a simple specification of what was wanted apparently sufficed.

It appears, from the archives of Baldwin's time, that the manufacturer's word was his bond, and when the stuff arrived from his mill, for use in engines and cars under construction, it was accepted in perfect good faith.

This trust was well grounded, because those who furnished cast iron, brass, and other materials honestly tried to give the very best which the prevailing practises prescribed.

It was very seldom that a casting was objected to by the railroad company which ordered it, and there was practically no criticism for locomotives and cars built in the "outside," or private shops. Orders for such vehicles in those times were unusual, and the

outside builders vied with one another in securing an output exempt from criticism.

This attitude probably arose from the fact that they were far-seeing enough to realize that the locomotive had made its advent to stay, and that those who delivered the goods would receive the orders.

Those who felt that way, notwithstanding the tremendous strides which have been made since then in the construction of all rolling-stock, are still fondly remembered, if not by the present generation, at least by the old guard.

Any engineer of only twenty years at the throttle can tell you that the McQueen engine was the best he ever ran, and to this day the original Rogers eight-wheelers are still rendering good service on the New York, Susquehanna and Western Railway, and are holding their own with the most modern types.

They are believed to have been honestly constructed, from the very best material available, and were largely intended, as said before, to advertise their builders.

As time wore on, however, and orders for equipment piled and piled up, some of the manufacturers and builders became somewhat lax through the pressure imposed upon them. In the face of the heavy demand for power which they were called upon to meet, it was really no more than human to let a piece or part go through which would have been immediately rejected in former days.

For instance, blow holes, or "worm holes" commenced to make their appearance in brass castings; castings were poorly cleaned; frames did not plane to a full surface, and stay-bolts were roughly and hastily driven.

The appointment of the railroad inspector was the natural outgrowth of the railroad company's determination to be assured of a square deal at the works. In its contract for new cars and locomotives, the stipulation was prominent that its representative should be allowed admission at all times, with access to all work under way. The idea, of course, was to correct defects in the interests of the purchaser, and before the equipment had been delivered.

It is rather hard to say who was the first locomotive inspector under the above arrangement, but it is believed that William Marshall, now living in retirement in Massachusetts, was the pioneer to be officially so detailed.

Some engines were being built at the Hinkley works some thirty or more years ago for the Old Colony Railroad, and the first two or three not proving acceptable, Marshall, who was a machinist in the South Boston shops, was detailed to the Hinkley shops with the idea that by keeping an eye on the work he would secure better output.

What trials and tribulations he underwent while serving in that capacity are not matters of record, but it is believed that the mention of his appointment is interesting, as, without a doubt, the elaborate inspection system now prominent on practically all railroads is the outgrowth of that beginning.

THE PAN-AMERICAN LINE.

Difference in Gage an Obstacle that Must Be Overcome First.

WILLIAM W. HANDLEY, United States consul general at Callao, Peru, has sent to the State Department, Washington, an interesting report on the muchly discussed project of uniting the United States and Mexico with the countries of Central and South America by means of an intercontinental railroad.

It appears that one of the most important obstacles to the successful development of the scheme is that relating to gages. The great railway systems of central Argentina are of

broad gage, 5 feet 6 inches; of northern Argentina, meter-gage (3.28 feet); of Bolivia, meter-gage; of Peru, the standard-gage of 4 feet 8½ inches; and in one important section of the Chilean Longitudinal Railway, only 75 centimeters (29.5 inches).

The line from Antofagasta, Chile, to Uyuni, Bolivia, is to be converted from narrow-gage, 2 feet 6 inches, to meter-gage; the conversion of the section from Uyuni to Oruro was recently completed at a cost of about $1,500,000 for the 195 miles. The Bolivia railway line from Oruro to Viachi was originally of meter-gage; the Arica-La Paz Railway is of meter-gage, as is also the Guaqui-La Paz line, operated by the English company, known as the Peruvian Corporation, which controls about eighty per cent of the railroads of Peru.

Meter-gage is practically the standard gage of Bolivia. The break of gage between Antofagasta and La Paz has been one of the heaviest handicaps to the development of traffic on that route, and it is estimated that before all the necessary work of conversion is completed it will cost nearly $5,000,000. The proposed railway connection between Argentina and Bolivia—the La Quiaca-Tupiza line—will not encounter directly difficulties arising from a difference in gage, as the Central Norte Railway of Argentina, the only route north from Tucuman, is of meter-gage.

The most direct railway connection at present between the Bolivian and Peruvian systems, however, brings the break-of-gage difficulties to the front. Of the approximately 2,500 miles of railway in Peru 1,899 miles are of standard-gage, 4 feet 8½ inches. Unfortunately the important longitudinal section of road now being constructed between Cuzco and Santa Ana, part of the main trunk of the Pan-American system, is narrow-gage, 75 centimeters, which necessitates transshipment at Cuzco of all goods destined for Mollendo or points farther south.

The meeting of the normal, or standard-gage, lines of Peru and the meter-gage line of Bolivia must result in great inconvenience, and if the project of a uniform-gage Pan-American railway becomes a reality one of the lines will have to be changed. At a later date there will also be the same trouble in regard to the Peruvian standard-gage lines and the meter-gage lines of Ecuador.

The Trans-Andean Railway from Los Andes, Chile, to Mendoza, Argentina, is an instance of the inconvenience arising from gage-breaking. The gage of this short line is one meter, whereas the line to Buenos Aires is of broad-gage. This single factor is a source of much delay and additional cost.

In view of the rapid development in railway construction along the west coast of South America in recent years the realization of the Pan-American railway scheme appears more feasible, but this difference in gages will be one of the largest obstacles that the engineers must overcome.

AMERICAN TO MANAGE G. E.

Henry W. Thornton, of the Long Island, Honored by Big British System.

HENRY W. THORNTON, general superintendent of the Long Island Railroad, has been appointed general manager of the Great Eastern Railway of England. The aim of the Great Eastern directors is to bring their system thoroughly up to date, and of all the important railway executives throughout the world suggested for the place it was decided that Mr. Thornton would best fill the important position.

In announcing the appointment of Mr. Thornton, Lord Claude Hamilton, president of the Great Eastern, remarked that the company had been obliged to go to the United States for a new general manager, as at present,

in the British Isles, there is a dearth of proficient men for the more prominent positions on British railways.

Lord Claude Hamilton further said he thought there was something paltry in the British system which tended to interfere with the mental activity of employees, who were reduced to mere machines because merit is sacrificed to seniority. He said he had not been able to find in England a man fit for the post, but in Mr. Thornton he had found a general manager admirably qualified and whose career was one succession of intellectual railway triumphs.

Mr. Thornton is forty-three years old. His selection by one of England's greatest railway systems is considered by railroad men to be a very happy choice, for Mr. Thornton is known as a tireless executive, a painstaking organizer, and a man of remarkable ability.

Mr. Thornton, an alumnus of the University of Pennsylvania, was born in Logansport, Indiana, and began his railroad career in the engineering corps of the Pennsylvania lines west of Pittsburgh, and after going through the railroad mill in nearly all capacities was appointed assistant general superintendent of the Long Island system on February 1, 1911. A short time later he was placed in full command of the road's traffic.

WHEN THE "MORSE" GETS MIXED

Some of the Funny "Bulls" and "Bugs" that Greet You When the Brass Pounder Doesn't Hear Just Right.

BY L. R. TAYLOR.

STRANGE things happen to telegraph messages. To one who has been initiated into the intricacies of the Morse characters the examples will be apparent, while for those to whom the clattering of the aluminum bar of the sounder is unintelligible a few words will serve to explain how the mistakes occur.

Not many years ago one of the country's leading daily newspapers published an account of the death of a marine man well known on the Great Lakes. In commenting upon the man's record as a mariner the story stated that "for many years he was sky-pilot on the Great Lakes."

The operator who copied this special was asleep at the switch, for instead of translating the Phillips code contraction "sky," which was used for "successfully," he transcribed the story exactly as sent and changed its meaning.

In another special to a newspaper, which had to do with the iron trade, in describing the market conditions stated: "The 700 men are very optimistic." This error was caused by the improper spacing of letters, for the same number of Morse dots and dashes are used, in the same relative positions, except for spaces, and the sentence should have read: "The mill men are very optimistic."

In the American telegraph field a majority of the errors made in the transmission of messages is due to the improper spacing by the sending operator. The telegraph business has increased greatly during the past few years, and now, instead of the artistic penmanship, such as identifies the older men in the profession, the typewriter plays a great part. Its speed has called for faster sending, and the semiautomatic bug has almost entirely replaced the old-fashioned hand sending.

There are comparatively few senders who are able to transmit perfect characters on these machines, and it is somewhat of a wonder that more errors are not made by the receiver who has to guess the meaning of some "bug fiends."

A number of years ago, before the last general telegraph strike, which is more commonly known as "the war of 1907," both the larger commercial telegraph companies had in operation a system of increasing the earning capacity of their heavier laden wires. Under a bonus system, the operator usually received a penny a word a message on all over a specified number in a certain time, about thirty per hour.

This system insured the working of the men to fullest capacity, for, in addition to the regular salary paid, the men were on many wires, able to make from three to four dollars a day bonus. In order to do this it was necessary to eliminate all possible work on the part of the sender, and it was customary on some wires to make the greatest saving of time in the heading of the messages. If a message were originating in New York and destined to Chicago it would be sent in this form:

299 Ny. 9
Ny
John Jones,
Ch.

Using only the office call for the point of origin, and also for the destination, the receiving operator would, however, be compelled to put it in the following form:

299 Ny. 9.
New York, Sept. 1, 1912.
John Jones,
Chicago, Ills.

It will readily be noticed that the receiver had to be rather busy before he got started on the message, for he was required to write three times as much in the "from" and address as was sent.

One often hears of exceptionally fast men on bonus wires, and such was Elmer Blake, who at one time worked what was supposedly the fastest wire in the country, the New York - Pittsburgh bonus. Ofttimes Blake has hung around the hundred - per - hour mark for the midday hours, when business is best, while sometimes the hundred mark was passed.

"Gerry" Curran, for a number of years working on the Detroit - Cleveland bonus, recently transmitted 103 messages in fifty-six minutes, which is hitting a merry pace. However, an hourly average of one a minute for the nine hours of the day is a good day's work.

It will net the worker from three to four dollars a day and is a pretty fair average.

Recently a message came to my notice which originated at a branch office in New York. The call for this branch was PO, and in transmitting it the sender used only the call of the branch and that of New York, thus: "Po. Ny." The receiver copied it as originating at Pony, New York, and the message was sent on its way. Afterward it was discovered and a correction made.

At another time when I sat in on a bonus wire a message came to my notice which was addressed to "The Scotl & Woolf Mills Co." This proved to be another case of improper spacing and bad combinations, for it was intended for "The Scotland Woolen Mills Co." The receiver, hearing the a-n-d of the first word,

had used the character indicating that word, and the sender in making "en" had not spaced them, thus forming "f" on the end of wool.

In still another instance a well-known wholesale fruit-dealer sent a message to a correspondent, the signature of which was rendered: "W. Ardl and Rusco." The addressee knew of no such firm and asked for a confirmation of the signature. This time it was received reading correctly: "Ward L. Andrus Co."

A message reading, "Miss 99 ——, Detroit, Mich.," was found to be intended for "Miss Lulu ——," the combinations of the letters "Lu" being identical with that of the numeral nine.

An expert operator who for years has worked for the Standard Oil Company recited to me an incident of his first work for that corporation when he received an order by telegraph for the shipment of several thousand feet of "pin" pipe. He has since learned, however, that "6 in." pipe is in great demand by the field department of his employers.

A man who appeared very much upset entered a telegraph office one day in an up-State town and asked for the translation of a message. He was aware, he said, of no such person as was mentioned in the telegram, which read: "Unclean Gus dead. Come at once."

On application to the office of origin, for repetition, it was corrected to read: "Uncle Angus dead. Come at once." The message was then understood, and the man departed with a becomingly sorrowful air, although later it was learned that he had profited considerably by the demise of Uncle Angus.

Occasionally one will meet with one of the younger operators who has great confidence in his ability, and should his work be questioned takes it rather as an insult, and will insist that "it was sent that way." Such a man might be guilty of an error such as occurred in a fair-sized office in the mid-West.

A telegram was received addressed to "W. E. Stinghouse Mfg. Co." The firm was unknown, and in answer to a request for disposition directions were received to deliver to "Westinghouse Mfg. Co."

Another youthful op might have received a message which came addressed to a young lady supposed to be living on Tumill Street. No record being found of such street, better address was asked for, and eventually the message was delivered to the young lady at No. 9 Mill Street, the letters "tu" forming another combination.

A Western automobile agent wanted some repair parts and wired the factory, located in a large automobile center, to rush them. The address read: "Black Motor Co., Mile Jefferson Ave." Of course the firm was well known and no delay occurred, but it was studied out that "Black Motor Co., 70 E. Jefferson Ave.," would have been nearer correct. In this case the numeral "7" was improperly spaced and formed the letters "Mi," while the resemblance of the long dash for a cipher was mistaken for "l," and the designating "e" completed the word.

A foreman in charge of construction of a telegraph line alongside a railroad wired his superior: "We are setting the poles temporarily." As delivered the message read: "We are setting the poles, tell P. O'Riley."

A message addressed to a garden-seed supply-house, "The Hon. Don. Dickinson Co.," was received as to "The Hondon Medicine Co.," another example of poor spacing of words.

In one of the country's leading dailies there appeared in print a story telling of the accidental death of a veteran of the Civil War. The despatch stated that he was identified by "Agar Button." It was learned afterward, however, that the means of identification had been the small bronze button of the G. A. R.

Bumping the Phoney Markers.

BY R. GILE,
Author of "Plain Plogger."

Shag, the Brakeman, Tells Why the Boys Were Called on the Carpet and What Happened at the Inquisition.

HE run was a long one, takin' the greater part of the night and the earlier hours of the day. I was all in and beatin' it for a berth without keepin' my lamps on the rails, when I hear a flat wheel on the car ahead. I almost bump, and look up to find Old Cross pushin' himself over the concrete with a pole. I know where he had the break-down, and I intended goin' round him without slowin' up, when he reverses sudden and flags me on the passin' track.

He shuts off and don't sound another signal. Just stands there and glowers, as much as to say he would be delighted to send me to the scrap-heap. I feel it's up to me to make a report of some kind, so I go in as bold as I know.

"Hello, old guns! What's gone wrong with you? Did you drop a side-rod or blow out a cylinder-head?" says I.

"I've been caught by a touch of rheumatism in my right driver, I guess," says he.

"This old rheumatics comes on about as sudden as hittin' a rear comin' down-hill on a dark night, eh?" says I.

I estimate that'll tap him; but he don't like to shove in his stack without rifflin' and countin' the chips a few times, so he replies:

"Oh, I wouldn't say so much as that! It has been threatenin' me for a long time, but it only laid me off for repairs and sent me to the shops a couple days ago."

"I—see! The night you were layin' up behind us at Faro the air is some raw and I suspect you didn't stick close enough to the fire-box. That's what makes it break out on you now, you should think," says I, as solicitous as a student nurse at a hospital takin' the temperature of her first patient.

He goes red, I could notice, even under the three-coat work of talcum laid on over his fresh shave. He comes right back at me with a full head of steam.

"So you're the guy who tried to make me pile up that train on the mountain Tuesday night — are you, Mr. Henley?" says he, as pugnacious as a game cock.

When he drives that handle into my name — I never havin' been anything but Shag to him up to that minute— I guess it flustered me some, because I call on Father Ananias as a witness in my behalf and enter a plea of not guilty.

"Not me! You're in the wrong car! Never heard you had any trouble on the mountain. This is the first bulletin I've seen on the subject. How was it, anyway?" says I.

"I should wonder you wouldn't know a word about it," says he. "Either you or that buttermouth, Plogger Hays, come near causin' me

to put No. 99 in the ditch that night. It won't be so amusin' when I get your job for that. You'll have a full opportunity to tell the old man all you've got on it. I'm on my way to make a report and ask for an investigation."

I was about to be caught between the bumpers and was not sure which direction was "safety first." Both sides of the track looked fartherest from me. I didn't want to go the wrong way, so I stall for more time.

"Cut out this code stuff and come down on the ties. What you drivin' at, Cross?" I asks.

"You heard me first time! I've been on the ties with you all the while. You'll be havin' a ticket on 'em to some other road after that investigation, I'm tellin' you, Mr. Henley," says he.

There he went, swingin' my name by that handle again; and, believe me, I get sore.

"Say, you! You're talkin' about some other guy's run. You don't issue no passes for that trip," says I. "That bushwa gets my goat! Whenever did you commence runnin' the cannin' factory on this line, anyway? Who are *you* — to grow fat in the head and throw a switch on me?

"Now, listen! Don't you try to slip anything over on me or I'll set the brakes on you so tight you'll never be able to turn another wheel on this road. It would be you who'll be rustlin' a new job after that investigation.

"I was on the bank right above you when you clapped on your life-preserver, kissed your throttle good-by, threw out your cushion, and went through the cab-window that night," says I, as we split up at a street-crossin'.

I don't sleep well. I can't make the time when Old Cross has in a call to demand an investigation for jumpin' his engine. That kind of despatchin' is headin' me in on a blind sidin', and leavin' me there without runnin' orders.

I can't go forward or back up. Finally I go dead on the proposition, and, say, there ain't any answer to it.

After I take my rest I start for Fox's to pick up a few pieces of easy silver before bein' called for my run, and on the way drop into a beanery near the yard office to get my evenin' scoffin's.

There's a bunch of rough-necks ridin' the cushions and hangin' onto the counter, editin' the latest sandhouse reports. As I swing aboard I hear one of those tallow-pots say:

"Take it from me, these brake-twisters think they're a wise lot of guys; but they're just a set of boobs that don't know enough to protect themselves when they're out of sight of the roundhouse without specific orders from the despatch office. Why, a couple of 'em thought they could get by with a fresh trick on John Cross up at Faro a few nights ago, and now he's goin' to show 'em where to head in for it."

"I hear you mention my name, you antediluvidated wood-burner!" says I, buttin' in on the conversation. "Come on! Show me where you do any of that punk switchin' while I'm on the job!"

"Where's your permit to ride my engine, buddy?" says he.

"I don't need no permit any time I want to ramble with you," says I. "What's this Cross story you're puttin' out to this gang of moochers, anyway?" says I.

"You're interested, are you?" says he. "Well, some of you brakies tricked Cross on the mountain and made him think he was goin' into the rear of No. 77 at a mile a minute. He stopped in ten car-lengths, and has gone to the old man with it. It's good night to the guy that put it over— that's all," says he.

"Been to the sandhouse for news, have you?" says I.

"Call it sandhouse reports if you want to. I've got another name for it," says he.

"What are you tryin' to string me with, anyway?" says I.

"I'm tellin' you straight, guy. Cross is sore. He was just down here lookin' for Jimmie Cooper, his fireman, and wised us up. That hogger says some one on No. 77 made a phoney rear for him by settin' up a couple of poles and swingin' a pair of markers on 'em, so as to have the appearance of the tail-lights of a caboose; and when he comes around the curve east of Faro he thinks he's goin' into the rear of a train, and almost ditches his own tryin' to prevent a collision; and gets himself all stove up when he thinks he's goin' to hit and jumps. He swears he'll get the guy's job that put the trick over on him if it takes him six months. And he's mean enough to do it if he goes after it. I'm not kiddin' you."

I begin to get nervous, and decide I had better make my getaway before them guys discover it and corkscrew something out of me. So while they're debatin' the matter I take a sneak. When I get outside I conclude I will pass up Fox's, look up Plogger, and go over the card with him.

On my way up-town I see Old Cross with his arm around the neck of Jimmie Cooper, caucusin' in a most animated manner. Now, that bird, Cross, don't get lovin' and embrace his fireman right on the main stem for nothin'.

I judge there's a plot bein' incubated to derail some guy, and of course I suspicion it's Plogger or me bein' planned to send to the ties. I'm some relieved when I lamp Jimmie shakin' his head energetic, and decide from the signal he ain't agreein' to Cross's plans. Anyway, the latter cuts the couplin' when I get within the circle of the arc they're makin' the stop under, and Cross don't answer the high-ball I wave 'em in passin'.

I would find Plogger, you should know, in the readin'-room of the Y. M. C. A., where's he's takin' on a cargo of facts on the finer points in the noble profession of braking.

He's not aware of my presence till I drop into the cushion on his right, pat him on the back, and say:

"Buddy, we're about due to be called on the carpet by the old man to explain the reason for John Cross's fear of splinters."

That guy, Plogger, never gets in a hurry and never worries. He takes his time in layin' his book aside, and then looks up as if he ain't more than half interested. Then he rises, takes me by a wing, and goes for the platform. When we get out where there's room for privacy he says:

"We'll walk down to the yards and talk it over. Now, let me see your smoke."

As we head for the tracks I blow the whole story and ask him if he's got the answer.

That Plogger is one white guy. He wants to assume all the hazards and hand me a fully paid-up, non-assessable accident policy at one and the same time.

"Sure I have, old pal," says he. "Here's the answer. I'm the guy that threw the switch and left it open. Just you keep that hole in your face closed and let them do the talkin'. They ain't got a thing on you. Your place was on the caboose. They can't pull you off there with a Mallet compound in a year. I'm goin' to give the number and make a wheel report on every car in the train, and let 'em send me on a vacation good for six months twice yearly if that would be the sentence."

"No, you don't, buddy," says I. "I'll double-head with you and set a brake every time you do."

"What's the use? There's no call for both us gettin' the can, or even makin' a compulsory visit home. It's comin' to me, if to either of us, and I would not see you do time on my account, old pal," says he.

He knows I've got the block closed on him, but he don't like to get the lay-out.

"I'm not suggestin' you carry any-

thing by, but the rule don't require you to unload what ain't plain marked or that the cap hasn't got a bill for," says he.

"I know what the book says, but I've talked this biz over with John Cross and told him I was wise to the jump he made," says I.

"There you go! You cut out the wrong car again and convict yourself out of your own mouth. Why didn't you see me before makin' a confession to that hog-head?" says he, real peeved.

"Buddy, I ain't got a cousin married into a lawyer's family like you. Me and all my folks are just railroaders," says I.

"Even that ain't so worse! But here you stand for the next train and the quiz less than three months off. Suppose you draw sixty days; then it's another year before you'll have a chance to move up, and a lot of younger guys'll go round you," says he as we get down to the caboose-housin' track and start a tracer for our car.

She's not at home, and we learn at the yard office on our return that another crew was called for our run and have gone out.

"Your dope's a hundred proof," says Plogger as we split, and go for the hay. "It's the criminal court for us to-morrow, and probably both of us back of the plow and hoe when the old man finishes with that investigation."

The call-boy pulls me out of the excelsior the next mornin' by workin' my buzzer on straight air. When I release the lock and open the door he comes in grinnin' and loses his pep in crossin' the threshold.

You know how them pests are. As busy as a dog with two tails till they get out of sight of the office or off the street, and then as deliberate as a surgeon answerin' an emergency call.

After the kid inventories my pile of junk and decides there's nothin' worth his time in swipin' he slips me a summons to appear before the old man.

"I've been makin' more'n the maximum speed limit ever since I've been on duty," says he. "It's half the guys on this division for the carpet to-day, and you among the bunch, Shag. The old man requests me to say for him he'll be pleased to have the company of Mr. Shag Henley at the office promptly at 10 A.M. Also, he said, you needn't bring any flowers, Henley, as they'll be supplied by the undertaker," adds the kid, and he darts through the door as I send a shoe after him to aid in gettin' up his steam.

When he reaches the stairway he yells:

"Yes, it'll be a funeral for some of you guys; and I hope it's yours, you big boob!"

I overhaul myself, slip into my tailor made, and am runnin' right on the dot. When my watch strikes ten I walk into the old man's sanctum just as if I owned the works and intend puttin' my feet in the roll-top, helpin' myself to a stogy from his private box and enjoyin' the luxury of an expensive smoke.

I guess I act some fresh for such a solemn occasion. There sits a bunch of guys, includin' a string of lads from the repair tracks and shops, ranged around the walls in uncomfortable wood bottoms, holdin' their hats awkwardly in their laps by concealin' their hands under 'em, and all lookin' so expressive as to remind me of an exhibition of wax figures in a musée. And none of 'em apparently was breathin' any freer.

It don't feeze me.

"Good mornin', Mr. Rice," says I. "You requested my presence at the hour of ten, I believe? Is there anything I can do for you? If so I'm at your service."

He places the bundle of papers he's examinin' in an open drawer, looks up over his nosocles half amused like, and then points to a vacant chair near the door without becomin' the least bit friendly.

Then he just digs up another batch of documents and goes over them as

if I hadn't come into the station under my own steam.

There ain't a countenance belongin' to that collection of paraffin faces that changes a degree as the old man sets the brakes on that attempt at familiarity on my part. I recall what the kid sent me from the stairway. "It's a funeral, all right; there's no mistake about that."

It would be an hour we sit there, it seemed to me, with never a word spoken. I move round once, as if I would converse with Bat Noland, and that guy, whose tongue works on an automatic pivot at all other places, shakes his head, looks as sour as a car of vinegar, and deliberately turns his back on me.

I guess I get inoculated with the same atmosphere that's workin' on them guys, as after that I go dumb, lay back, and wait for movin' orders.

It should be near noon when the old man lowers the paddle and let us go.

"Mr. Cross has asked for an investigation of some trouble he claims to have had near Faro on the night of the 21st," says he, movin' his chair out in the center where he can have an unobstructed view of the tracks. "We only want what information you men possess of your own knowledge, not what you may have heard some one say about the subject."

Believe me, I feel relieved, though I was confident after the sheep were separated from the goat I would be it.

Then he takes up the shop and repair men, and after discoverin' they only know that caboose 6644 and engine 585 show no marks of bad usage or damage he dismisses them and calls Old Cross to the witness-chair.

"Now, Mr. Cross, make your statement; but please be as brief as possible," says the old man.

He knew John's reputation—a windy as well as a ramblin' guy.

Well, that hog-head is right in his element up to his eyes. He takes up his run from its birth at Carterville and gives every bit of his biography till he buries it in the roundhouse here in Clinton.

When he gets as far along in its life as BX he begins to grow real eloquent. He paints a graphic word picture from there down to Faro, puttin' in a brilliant background with the moon makin' a measly and unsuccessful attempt to come through the clouds, and addin' quite a bit of detail in the way of shrubbery and ornamental gardenin'.

He makes the tracks above Faro exact, and then draws in a phoney rear as the central idea of the creation; but can't find room to show himself makin' a darin' leap to avoid the splinters. And that's the most interestin' feature in the whole affair in my opinion. Then he frames it all up in heavy, gilded moldin', and hangs it on the wall.

It's fairly true to life, I confess; but it has the artist's exaggerated conception of how it should appear, rather than the landscape as it really is.

When Cross concludes the old man proceeds to ask a few questions.

"You say you had a flag about a mile east of Faro, and did not stop to pick him up?"

"I thought he could grab the rear," says Cross.

"And you running forty miles an hour! And even if he could have done so, he would have been compelled to walk from the rear of your train to his own car. Was that your idea?" asks the old man.

"I never thought anything about that," says Cross.

"And you say when you came around a curve you saw what you supposed to be the rear markers of 77 not a hundred feet ahead; and that you immediately reversed, applied your brakes to the emergency, and thereby came near putting your train in the ditch! Now, the lights were not those of 77. Is it possible your eyes are bad, Mr. Cross?" asks the old man.

"That's what I said; and I sure saw them lights, all right," replies Cross.

Then he goes to his inside pocket, brings out a piece of paper, and says with an air of finality as he passes it over to the old man:

"Read that! I anticipated something of this kind, so I took my lamps to the eye inspector this mornin', and, you see, he says they're O. K. and pullin' their tonnage right up to specifications."

"Then I can't account for the lights you claim to have seen, Mr. Cross. What do you think they were?" asks the old man.

"I know what they were, but I think Shag Henley can explain them and tell you all about the whole matter if you ask that gentleman for the information," says Cross.

"Very well; we'll reach him at the proper time," says the old man.

Then he calls Cooper, and learns that he was down stokin' and didn't know a thing.

The cap puts Plogger and me in the clear by sayin' Hays was back with a light and I was on the ground smokin'.

I sure feel relieved at that—something like a condemned criminal when he gets a month's respite to prepare for the day of execution.

The old man then turns to Plogger, and says:

"So you were in the line of your duty — out with a flag protecting the rear of your train. Well, that's just what we would expect of a man with your fine record, Mr. Hays."

And when that guy wants to unload his conscience so as to save me, the old man stops him, waves him aside, and says:

"Never mind, Johnnie; I'm through with you. I knew there could be no doubt of your conduct at all times. You may go now."

Just hands the guy a whole bucket of whitewash and tells him to go outside and put it on thick.

Then I'm called on to give an account of myself.

"And where were you, Mr. Henley?" asks the old man.

I was stalled; down to the first gage, and ten miles from a waterin' stop. I can't see my way out; but there's only one thing for me to do, so I say:

"On the bank right above where Cross made his record stop."

"You — were!" says the old man, as if it pinched him for me to place myself in that position. "And what were you doing there?"

"Learnin' how sudden Cross can kill his train without puttin' it in the ditch," says I.

"You—were!" says he, more surprised than before. "Did you see the lights Mr. Cross speaks of?"

"Sure I did," says I.

"Well—well, this is the most important information we have had yet. What were the lights?" he asks.

"There was a rod on each side of the rails, about the height, and set so as to be about the distance between the rear lights of a caboose. A marker was attached to each rod, and it made a fair imitation of the tail of our train. If I had been in Cross's place I would have done as he did and jumped before the bump," says I.

"Do you know how the lights got placed there, Mr. Henley?" asks the old man.

"Sure! Cross has a habit of runnin' by a flag and makin' us guys walk in to the train we're flaggin' for," says I. "And we decided he must be color-blind, so to prove the matter we rigged up that phoney rear for him to run into before he does go into some one's caboose; but, believe me, he can see the red lights on the rear of a car as well as any of us. There ain't a thing wrong with his eyesight. I'll tell the world that!" says I.

The old man attempts to look severe. He bites his lip and gets out his handkerchief to veil his amusement; but he can't get by with it, and finally lets out a good, hearty laugh. After he cuts off the risibles he says to me:

"Thomas, this is not to be taken as an approval of practical joking, be-

cause the practise is liable to be carried entirely too far; but in this particular instance I believe the management owes you a word of thanks. You have taught Mr. Cross a useful lesson — probably saving him from a serious collision — and one he's not likely to forget. However, have a care in the future."

Then he turned to Cross:

"Mr. Cross, you are an old man in the service of the company. You know the rules. By your own statement you ran by a red flag. By that act you might have crashed into the rear of No. 77 as you really thought you were doing. Had you picked up the flag you would have had your train under complete control when you came round the curve, and there would have been no necessity for a sudden stop. We've known for a long time of your practise in this respect; but your fellow employees have made no complaint, and the management could see no way to reach you. This practise not only causes delay, but is in violation of the rules and is highly dangerous. You have brought it to our attention by your own request. It is not a pleasant duty to discipline you, as outside this one fault you are an excellent man and a valued employee, but you must understand that the rules are made to be obeyed to the letter. You are set down for sixty days, during which time you may familiarize yourself with the rules you seem to have forgotten, Mr. Cross."

John don't see me as he goes through the hall. He don't even stop to speak to the other guys who are there waitin' for us to come out, but he tells the cap who asks for the result:

"Another case of the innocent bystander gettin' the worst of it."

THE FINAL RUN.

BY GEORGE WILDEY

I'M glad, old friend, you've come at last
To sit with me awhile;
And let no thought of sadness cast
Its shadow o'er your smile.
I would that presently when I
Shall make the final trip
The old-time cheer should light your eye
And linger in your grip.

So long we two were wont to ride
On passenger and freight,
But somehow we've been switched aside—
They've passed us by, of late.
And since the fever laid me low
I've counted every run,
And thought of all the hardships, Joe,
And likewise all the fun.

I heard again the engine's shriek,
The sudden crash and shock;
I heard the coaches grind and creak,
I felt them reel and rock.
'Twas just beyond the horseshoe bend,
A landslide caused the wreck—
You found me just in time, old friend,
And saved my worthless neck.

A thousand mem'ries, grave and gay,
Came slowly trooping back;
And some shone brightly by the way
Like sunshine on the track.
The shifting lights and shadows, Joe,
Of days long past and gone;
But for each dying sunset glow
There waits a brighter dawn.

And I've been ordered out once more,
Not on the same old line—
But where the headlight gleams before,
A nobler run is mine.
A strange, new journey through the night;
And somewhere round the bend
Where glows the faith-lit signal light
I'll watch—for you—old friend.

Told By the Traveling Salesman

THE PRYOR CREEK HOLD-UP.

BY COVE HILL.

"TALK about being frightened, there is nothing that will put a man to the bad so quick as a hold-up."

Carter was about to launch a reminiscence. I settled back in my chair and watched the smoke of my cigar curl ceilingward. Seven years in the southwest as deputy United States marshal had given the man a knowledge of many outlaws.

"It was during the summer of '94," he went on, "I had handed in my commission, and was selling boots and shoes for a Boston firm. My run extended over the eastern part of Indian Territory, both on and off the rails, for we often took our biggest orders at some isolated store thirty miles from the nearest station.

"In those days a salesman not only sold goods, but attended to the firm's collections. These sums varied from a few dollars to as many thousands. This was sent in on reaching the first express office, after which the company would return the merchant a receipt for the amount paid.

"I had been touched for small amounts on several occasions. Once, when making a collection of sixteen thousand, I was fortunate enough to save it by a case of mistaken identity.

"It happened at Tahlequah, a burg well down in the Cherokee country, and of more than passing importance, even then, for the Indians had just received their land money, following the largest shipment of coin ever made into that section of the Territory.

"Reaching the town after a twenty-mile drive I found a jewelry drummer already on the ground. Having met the man before, we were soon talking shop. During the conversation it was agreed that we should go back together. But it so happened that neither of us was ready for the road until the next morning.

"As we stopped at the same house that night I learned that he had collected four hundred dollars, while I was in possession of something over sixteen thousand. Knowing it was unsafe to travel with that amount in a hand-bag, I unpacked one of my sample trunks and filled several pair of boots with the money. Then, to be sure that it would get through, I sent the baggageman on ahead the

next morning, while I followed, empty handed, by a different road.

"Before leaving Tahlequah I bid my friend good-by, as he had concluded to go out another way. The fellow laughed at my precaution, saying there was no danger, as he had always got through without any trouble.

"Two days later, when swinging through Muskogee, I happened to meet Doc Paul, who told me that my friend had been robbed and was one of the worst beat-up men he ever saw. As it lacked an hour of train-time I ran over to the hotel to see him. The man's face was a sight. The robbers had taken his money and pounded him in the face with their guns when they discovered that the wrong drummer had been followed."

"But where did the scare come in?" I interrupted.

"I'm coming to it," said Carter, his eyes blinking good-naturedly.

"It was just two weeks later that I ran into the Doolan gang at Pryor Creek, a hold-up that has long since made history for the southwest.

"I had finished a swing through the prairies north of the old 'whisky trail,' and was doubling back. It was the middle of June, and in order to escape the midday heat I did not get into Foyil until after dark. So stopping for the night I had my driver pull for Pryor Creek early the next morning.

"On entering the city hotel about eleven o'clock I found a set of traveling men. There was five of them, all drummers, thoroughly alive and in high spirits. Some of the boys, like myself, had been pulling through the back country for weeks, and the sight of a railroad made them feel good.

"As I remember, there was Tate Brady, Jim Egan, Doc Paul, Chesney, and myself. On the rounds Paul had met an old hunter, who placed a rifle in his care to leave at a repair shop down the road. The gun was a vicious affair, and after being handed around for inspection the boys used it to hold up each other. Of course we laughed, but later on this fool gun-play came very near causing me to lose my life.

"After a good dinner each fellow struck out for himself, intent on picking up what business he could, it being agreed that our crowd should go out on the same train that evening. Having some business with Bond, manager of a mercantile company, I loafed around his office for several hours. While there I learned that he and his wife were going out on our train. An insignificant fact, nevertheless it figured in the drama that was to follow.

"On leaving the store I went to the hotel and wrote several letters, after which I commenced checking up my orders. Not being through when the supper-bell rang, I continued until the task was finished, and thus it happened that I did not see any of the boys until nearly train time.

"Hastily eating supper, I went to the depot to find our crowd laughing and talking on the platform. Each had enjoyed a good day's run, and, with that open-hearted spirit natural to the road, they had selected a Don Quixote. It was Doc Paul, a fun-loving, joke-making fellow, with a good fund of repartee. He still had the old gun and was blustering around impersonating some high-handed desperado bent on blood and destruction.

"Laughing over the fellow's antics, I finally grew tired and entered the waiting-room. Finding that it would be some time before the train arrived, the thought struck me to go up-town and bid one of the merchants good-by. Having secured a good order from the man, I felt that a little courtesy would not be out of the way. So hurrying back my adieus were duly given, after which I slowly walked back to the depot.

"By this time the sun had sunk into a drift of blood-red clouds, while a downy twilight was creeping over

the prairie. Little wind stirred, yet sufficient to give the atmosphere a touch of pleasantness that enhanced one's sense of contentment. Eastward I could see the railroad-track stretching away into the gloom, while to the north rose the Pryor mound like some medieval castle. The Pryor Creek of twenty years ago is not the trim little city that you will find to-day. The stores were ramshackle affairs, its homes scattered, and as I recall, there was but a single church in the place.

"Before reaching the depot it had grown too dark to recognize any one very far away. Though several people were moving about, I did not see any of the boys, and concluding that they must be in the waiting-room, I made for the building.

"Sauntering along, I had approached within a dozen yards of the building when a small, wiry-looking individual sprang out from somewhere and cried:

"'Halt!'

"I could see that the fellow held a gun pointed toward me, but thinking it was Paul with another of his hold-up tricks, I approached and, brushing the weapon aside, told him to look out, as an unloaded gun might go off.

"'You fool,' he yelled, 'this gun's loaded. Up with your hands and be quick about it.'

"'All right,' I cried, backing away.

"It is needless to say that by this time I had discovered my mistake. With a grip in one hand and my order-book in the other, I ran backward, trying hard to keep them both above my head, but my rapid flight and cumbersome luggage made me wabble like a drunken man. Reaching the waiting-room, I stumbled in, to find another robber, who quickly headed me into a corner, where the remainder of our crowd were under guard.

"'Did they rob you?' ventured Paul as I fell into a seat near him.

"'No,' I panted.

"'Well, that's lucky. If you've got any valuables slip them to Bond's wife. We have given her everything with the hope that they won't hold up a woman.'

"As I rummaged for my purse I hurriedly scanned the face of those near me. There was Brady, Mrs. Bond, Egan, and Paul. He still clung to his worthless rifle, but all the man's joy had vanished. A real hold-up had subdued him, as it had the others.

"Handing the woman my pocket-book, I watched her slip it through a slit in her shirt-waist. But not ten feet away stood one of the robbers, and on glancing up I saw that he had followed every move.

"Meantime the passenger pulled in and the fun began. After rounding up the train-crew and placing a guard over them, some half-dozen of the desperadoes rushed into the waiting-room. Our crowd was immediately ordered to move out and enter the smoking-car.

"As we hurried to comply, I recognized Big Bill Doolan, Cherokee Bill, Henry Star, and Alf Cheeny. But there was no opportunity to exchange greetings, for they crowded us up the steps and into the car with the demand that all shell out then and there.

"As the rest sank into the near-by seats I fished out two small coins and handed them over.

"'Here's thirty-five cents,' I said. 'It's all I've got, Bill.'

"The big fellow scowled.

"'You are a fine drummer,' he growled. 'Go through him, boys, and let's see.'

"One of them immediately complied, but after a rough search nothing more was found. Meantime my companions were compelled to give up all they had, Mrs. Bond along with the rest. As the woman passed them our purses a twenty-dollar gold-piece fell to the floor. Her foot covered it in an instant, so she was able to save that amount.

"By this time I had recovered my nerve to such an extent that my tongue had loosened up. I began to chaff Doolan, but he paid no attention to my joshing until the train-robbers had started away.

"'Get up from there, Carter,' he suddenly roared. 'We need you to hold the sack.'

"'You are surely joking, Bill,' I said, trying to laugh.

"The long barrel of a forty-four pointed my way left no doubt as to his meaning. This was a turn I had not expected.

"Did the big fellow think that I was still a deputy?

"As the thought flashed over me the smile left my face, while a shiver crept upward, ending around the roots of my hair. But knowing the importance of a quick compliance, I grabbed the bag and followed them. One glance backward revealed the blanched faces of my companions, who saw me quickly going, as they thought, to my doom.

"Coach after coach was searched until the sack was half full of money and jewelry. While we were thus occupied those on the outside were shooting out the car windows. Their rapid firing, the falling glass, and shrieks of women blended discordantly with the burring commands of Doolan, who, along with Cherokee Bill, marched before me compelling every passenger to throw his valuables in the bag.

"I wanted to run, but a single move on my part would have drawn a dozen shots. Then, too, I was feeling dubious about the outcome. These men were well aware that I knew their leaders and could easily identify them.

"While these thoughts agitated me, the last coach was finished and we left the train.

"At this juncture I felt certain that my time had come. They would not dare turn me loose when identification might jail them all. It was a ticklish moment. Even their dogged silence made my flesh creep, least on turning a bullet would catch me unawares.

"Mounting the platform the bag was taken from my hands, and as they crowded around it I saw a chance to slide out of the jam and make a jump for life. Springing away, I landed I know not where, but with the agility of a cat my legs carried me over an eight-wire fence and up a hill. Seeing a church ahead I made for it with no thought save that of escaping their bullets.

"Finding a high porch in front, and not caring to go over, I hesitated a moment, then cautiously crawled under it.

"I stayed under that porch until morning. Nor was I anxious to show my face until a survey of the surroundings convinced me that the Doolans were gone and the town was quiet again."

MR. COMMERCIAL TRAVELER:

You travel on trains almost as much as railroad men. You see and hear things that ought to make snappy, human-interest yarns for the

RAILROAD MAN'S MAGAZINE.

Why don't you send us some of your best?—the kind that keep the good fellows in the smoker awaiting impatiently for the next word. Tell it for us just as you would tell it to them. We will pay promptly for all that we accept. We want, preferably, stories of your experiences; but don't fail to send in the best story you know.

LOOK OUT FOR THE LOAN SHARK!

It Is Estimated That One Wage Earner in Every Five in the United States Is in His Clutches.

BORROWERS PAY HIM AS HIGH AS $3 FOR $1.

This "Salary-Loan Blood Sucker" Does Not Need the Law to Collect His Blood Money Because a Peculiarly Legal Blackmail Known as "Bawling Him Out" by Public Dunning Is Satisfactory and Sufficient.

BY CHAUNCEY THOMAS.

HAT financial cancer, the loan shark, holds to-day one-fifth of the people of the United States in peonage. He is the cause of more misery and crime than drink and gambling combined.

Strong statements these, but I make them calmly. If any one doubts their correctness, let the doubters consult the managers of any charity institution, employers of great numbers of men and women, or read scores of reliable reports on the loan shark, such as are issued by the Russell Sage Foundation or the National Federation of Remedial Loan Associations.

In this article I have placed the loan shark in three divisions: (1) the nature and extent, (2) the causes, and (3) possible cures, especially for the man now helpless in its clutches.

One wage-earner out of every five in the United States is in the hands of the loan shark. The average loan is less than $60, the average interest is probably over rather than under one per cent a day, or between 300 and 400 per cent a year. In New York it is estimated that the average rate is over 500 per cent, and in Pennsylvania at least 700 per cent a year. The borrower pays back between $2 and $3 in interest for every dollar he gets, besides returning the original dollar. As the average loan is probably for less than one year, this makes the yearly interest rate something almost unbelievable.

Take the Rockefeller fortune as a sample: The increase of Mr. Rockefeller's fortune from $5,000 in 1865 to about $900,000,000 in 1914 is figured at the rate of only about three per cent a month, or doubling every three years. The loan shark makes Mr. Rockefeller look like a lazy spendthrift, because at the rate at which our gentle vulture loans money in ten years he would have just five

times as much money as Mr. Rockefeller has made in nearly half a century.

The only thing that prevents such a result is the fact that the loan shark's victims have not that amount of money, but he gets all they have.

The loan shark takes three main forms: (1) the pawn-shop, (2) the chattel mortgage, (3) assignment of salary.

The pawn-shop is one of the oldest affairs known to man, and when properly run and regulated is often a blessing. It is the least harmful of the three, even at its worst. The chattel loan on household and personal belongings is of recent invention, and is the chief cause of breaking up homes. The salary loan, or assignment of wages, is of still newer invention, and is the worst evil in America to-day.

The Federal government does not recognize the assignment of government wages, yet Washington, District of Columbia, is one of the worst salary-loan sores in the United States. It feeds on the civil service and fattens on the army and navy. The salary-loan blood-sucker does not need the law to collect his blood-money, a kind of purely legal blackmail called "bawling him out" or making a public dun at the same time is enough. It is all the weapon the shark needs. With it he drives men to drink, stealing, gambling, vagrancy, suicide, and frequently murder.

The three foundation-stones of the loan shark's leverage are: (1) the steady job, (2) secrecy, (3) blackmail. He is aided, usually unknowingly, by the employer who discharges his help for getting into debt, or who pays at too long intervals. It has been found that an employer can reduce the evil in his own place to a great extent by not discharging an employee in trouble, but by kicking the "bawler out" down-stairs and paying his employees weekly instead of monthly.

The loan-shark evil is by no means confined to the wage-earner. The publications I have mentioned state officially that the evil reaches from the chronic borrower and deadbeat through the needy poor, on up through those only rarely in need of financial aid.

It is admitted cheerfully by all who have studied the subject that the loan shark is filling a real and legitimate need that the government should fill, but does not. This is why the sharks grow fat and numerous in the United States, while in many other countries they are almost unknown. There is practically no method in this country whereby a man without banking connections may obtain a loan of $100 or less on good security for a short time unless he turns to the loan shark.

The only possible exception is in the few companies that have been organized to fight the loan shark, semi-philanthropic enterprises like the various loan companies that lend money in small amounts at a reasonable rate.

The Bank of France, out of ten million loans in one year, made over two million loans for $10 or less. How many places in the United States to-day can a man not in business for himself borrow $25 till pay-day, even on a $100 government bond? Right here is, to a large extent, the reason for the loan shark. He does not exist in France. Canada ran him out by much the same means. So have other countries.

Impossible to Enforce Laws.

Another, but disguised, form of the loan shark is found in the instalment-houses and in the small business concerns that sell on credit at double prices. Some of these concerns are perfectly fair and honest, but others trade on the good name of the few, and are one of the worst features of the loan-shark evil. Once in debt to a dishonest instalment-house and a man must go on trading, say for inferior groceries or clothing, at two or three

times the market price, till the debt is paid.

It seems almost impossible to reach such a situation, bad as it is, with law. In fact, we could not well have stronger laws than we have in many States against the loan-shark evil; but they are not enforced for the simple reason that it is impossible to enforce them without actually paying into the hands of the sharks themselves.

Another cause of the loan-shark evil is the far-reaching and powerful lobby it maintains in every State capital.

The shark himself, as the public sees him, is very often a very pleasant chap or young business woman—but only a clerk. The real shark is the real owner of the money loaned—the men and women who get the interest of about one per cent a day.

Follow the trail of this money and you will find yourself in surprising company, say among good, thrifty people who own property rented for saloons, or even worse purposes, or who hold mortgages on the same.

A list of the real-estate owners and money-lenders in the saloon, gambling, white-slave, and loan-shark business would create a sensation—to put it mildly. The man on the surface is only an employee who takes the blame, but not the profits. This is the chief reason why the loan shark thrives in America. He is not so much a shark as a whale when it comes to his size in the business and social world.

What the Railroads Have Done.

Some cures have been suggested for this social and financial cancer. Experience of other countries and of our own seem to show that there is but one sure cure—for the national government to establish banks, something like the postal-saving banks, where small loans may be had, just as is done by the Bank of France. Meanwhile, as this in America is only a dream—as were the postal banks half a century ago—experience has shown that the law can do little, but that the employer can do much.

The poor man's need for $10 is just as real and just as important—taking the nation as a whole—as the business man's need for $10,000. One is as legitimate as the other. Realizing that there is now no place to borrow this $10, employers are slowly beginning to understand that it is for the best interest of both themselves and their workers that the employer lend the employee the money instead of letting necessity drive the employee to the loan shark.

Of late especially the American railroads have awakened to this fact. They are sending out circulars to their men and women that those who are now in the maw of the shark will not be discharged, but will be advanced the money with which to pay what they *really* owe. Also, that the best of legal help is now at the free disposal of every man in their employ. When the employer makes this move it is up to the loan-shark victim to avail himself of it at once.

Secrecy Is the Shark's Grip.

But it is found that if the company asks questions, either of how or why the man got into trouble, or why or for what he wants a loan in the future, that these questions defeat their own end. Pride often forbids a truthful answer and an investigation is fatal to all assistance the company can give their men. So is any scheme to organize a saving department by the company.

Often the best employers only make matters worse for the victims and better for the sharks. One railroad discovered that its system of holding back the first two weeks' pay and paying only once a month was driving most of its newly engaged men to the loan sharks for money on which to live till they received their first full pay-checks. The road at once changed the system.

It is a fact curious to many, that

such loans cannot be made for less than at least twelve per cent a year in this country, for the simple reason that if the rate were less the money would all go into commercial loans, and that would leave no money for the small borrower.

New York banks often get as high as fifteen per cent for their money, and during a stringency such as 1907 the commercial rate was ten per cent a month, the regular cut-throat pawnshop rate. The pawn-shops could have loaned a billion or two at such rates on the best of securities if they had had the money.

For that reason the small borrower from a public institution should expect to pay at least one per cent a month for his money. It cannot be loaned for less, or it would all go into bigger, safer, and more convenient and desirable loans.

A last word to the man in the jaws of the sharks: Remember that secrecy is the shark's best hold. Go straight to the first bank cashier you see and ask his advice, or to the men high in any line of business — law, medicine, or anything. Go to your boss if he is a sensible broad man; but turn to some one for help and advice, as you can never pay the shark single-handed.

BOOMING IN BANANA LAND.

Queer Experiences and Startling Adventures of a Railroad Soldier of Fortune in the Countries Below the Rio Grande.

BY FRANK KAVANAUGH.

Running from the Rebels.

I MET Soldani in Acajutla. He was checking bananas and coffee for the Pacific Mail Steamship Company. Later we met in Salina Cruz, where he was yardmaster at the port works. Three years after that I went into a saloon in Valdez, Alaska, for a fifty-cent drink of whisky and found him there drinking a twenty-five cent glass of beer.

So, when I met him in Memphis, in the little park overlooking the Mississippi River, we fell on each other's necks, much to the astonishment of the park policeman and the other loungers there.

Soldani had been braking for the Frisco, and had "blowed the job" the day before. He wore good clothes, had about one hundred dollars in money, and the same longing for Old Mexico that I had.

That was December 8. Every railroad in Texas was fighting the floods, and we had to zigzag over the Lone Star State for several days before we reached Laredo—on the 12th. There we bought second-hand clothing and a gun apiece. Then, leaving our clothes, watches, and union cards at the Hotel Hamilton, we walked south along the river, hunting for a place to cross.

We found it about twenty-two miles below the city. We forded the stream which separates the two republics. We

could not cross at Laredo because the federal troops were in charge of that city, and they wouldn't let any one get through, especially boomers.

Soldani was the first to suggest that we secure mounts. It hadn't occurred to me to do so; but walking over the desert was bad, and, besides, the federals had a way of making sorties from Laredo and capturing any stray people they found hiking. That is why, at three o'clock one cold morning—it was the 13th—we frightened a corral of horses we found poorly guarded and ran off two of them. After that time we were mounted, which means a lot to a man in Mexico.

We rode south. Both of us having seen a little active service in Zamboango, in Iloilo, and even away down in Mindanao, we had provided ourselves with a shelter-tent, which kept us comfortable during the day. We traveled mostly at night, because we were expecting the owner of the horses and didn't want to meet him—or them.

At San Antonio Soldani had purchased a camera and sufficient films to last a reasonable time. We were eating breakfast the third morning out; cooking the last of our bacon. Our camera was on a hummock not twenty feet away. The wind was blowing sharply from the north; that was why we had stretched our shelter-tent as a wind shield, and that is why we could see no one approaching from the north.

We heard a shot fired. The camera jumped two or three feet from the ground, turned a somersault, and fell with a sound of breaking glass.

We were captured. I thought for a moment that the owner of the horses had captured us. I was sorry. Although horse-stealing seems to be no crime in northern Mexico just now—unless you get caught in the act—I did not want to be caught. Sometimes they do not allow you time even to pen a farewell to your relatives.

I could see that Ojeda (pronounce it O-hee-dah) did not care to have two boomers wish themselves on him.

The long senior (that was me) knew all about those two rapid firers; the short senior (that was Soldani) could drill a squad so skilfully that not one would run in a battle even until the last man was killed.

And the long senior could fix the guns which shoot with rapidity. Then, when the command camps, which it will do at the next water-hole, the long senior shall get busy.

These were Ojeda's suggestions.

At San Antonio we had purchased a copy of the January RAILROAD MAN'S MAGAZINE. After camp was made no one seemed to care whether Soldani was put to work or not. I gathered all the tools available and went to hard labor. While I was working Soldani translated Barry Lamont's "The Jinx of the Rio Southern" to Ojeda and his officers. After that he told it to the *commando* in a body, reading a sentence and then putting it slowly, word by word, into the vernacular.

And all the while I was toiling with monkey-wrench and screw-driver. I got but little thanks for my work, but every one seemed to think Soldani was a little hero; which goes to show that it takes but little to make a hero.

One old fellow, discussing Lamont's story that night around the camp-fire, said he knew where the imaginary kingdom was located. All you had to do to get there was to go north from Tehuantepec, travel five days over the mountains, and you would be there. But it was as "the American book with the red cover and the pictures in it said." Once there no one could return.

And, he added, was the *commando* going to have to feed the man with red hair who could swear so fluently in Castilliano and who did nothing all day but work around the little guns that fired so many shots.

And it is always thus. The man who does the work is the man who gets no credit. Soldani hadn't soiled his hands so far. Yet he was the hero of the camp. I had fixed two rapid firers

of the vintage of 1898 and they begrudged me the food I ate.

Ojeda wasn't a bad fellow, after all. That night he asked me to his tent, and there, over a bottle of Guadalajara *tequila* — the kind you have to mix with three-fourths water to keep it from taking the skin off your throat— he talked to me.

He had a cousin of the same name, a general in the federal army on the west coast, and his ambition was to get hold of that cousin and make him stand up against the stone wall in some plaza while he, Colonel Ojeda of the rebel army, would give the firing command to the squad. This kind little act completed, he would hang him to a tree to give warning that no Ojeda could fight for the usurper and live to a ripe old age.

As the *tequila* bottle grew emptier, so Ojeda grew more and more confidential. Some day he might be *presidente.* Then the man who could fix rapid firers and talk Mexicano without a touch of the hated gringo accent would probably be a general. Then he wept on my shoulder, and I went back to where I had picked out to sleep, to find that some of his braves had made off with my blanket.

Next day we marched in the direction of Monterey. I say we marched, but it was more of a straggle. Ojeda's regiment (he called it his army) was different from any I had ever marched with, and I had hiked with three.

His men had none of the outcropping patriotism of the Cuban soldiers in the days of 1896. There was no *esprit de corps* like that of the Japanese above Vladivostok. The soldierly bearing which marked the men of the Eighth Army Corps in the Philippines was absent. There were no drills; little discipline.

I had the only tooth-brush in the regiment. A bath would have been counted a calamity. The first thing the regiment did when its members went into camp was to take off their clothing and shake it good. That meant several thousand less insects to bite on the following day. And this was the outfit on which we had wished ourselves.

On the 24th we took Tula, a little town some forty kilometers from Monterey. By this time I had my eight gunners pretty well drilled, although in the action that followed I had to carry a pick-handle and tap the knuckles of the crank man when I thought he was going to jam the gun.

In size Tula resembles, or resembled, Olathe, Kansas; Denton, Texas; Paris, Missouri, and Greenfield, Indiana. It wasn't a bad little town, but it had always been in sympathy with the federals, and this made the inhabitants the enemies of Ojeda. The colonel placed me and my band of *opéra bouffe* brigands and my two rapid firers on a little hill overlooking the *commandancie,* which in the United States would mean the city hall.

The old rifles had but little muzzle depression, and when my rowdies began firing I could see the shots clearing the *commandancie* by ten feet, hitting the plaza on the other side and ricochetting harmlessly against a stone wall at the opposite side. After using the pick-handle to call the attention of the crank men to my orders, I motioned them down the hill.

I had my horse and rode ahead of them. Now that horse had never been in a battle before; therefore it was excited, and while rushing down the hill, stumbled. I went over its head. I was not hurt, and after I had spit out a front tooth, and wiped the blood out of my eyes, for I landed on my head, I placed the guns again and we began to send lead into the *commandancie.*

Away to the left and below us Ojeda's men were coming up the main street of the town, sweeping it with a rifle fire. I saw a man crossing the street whirl rapidly and fall inert; I saw a woman clasp her hands to her breast and crumple up in a heap; I saw a bird fly into the line of the fire of my rifles, hesitate for an instant, wheel upward, and disappear.

All the time my brigands were firing, and I held my watch and timed them, occasionally using my pick-handle on their fingers.

At three thirty the *commandancie* hoisted the white flag. Had they delayed an hour longer no one would have been there to do the hoisting. Out of the federal garrison seventeen were alive when I entered. The old *commandante,* a man of, perhaps, sixty years, had lost his left hand; there were none who were not wounded in some manner. The rest were dead.

Then came the preparations for the execution of the seventeen. As the *commandante* had lost his left hand, I felt sorry for him and rolled and lighted cigarettes for him while his men were digging their graves. Just before sunset, the eve of the day every one in the great republic to the north was making preparations for that festival which means "peace on earth, good-will to men," we lined those seventeen men up and shot them.

While preparations for this cheerful Christmas Eve celebration were going on my brigands, the gunners of the regiment, had raided a *cantina.* I, their commander, was so busily engaged in watching preparations for the slaughter that I had not kept perfect discipline.

One of them thought of his commander, however, and brought me a *garafone* of *aguardiente.* The other soldiers, seeing it was so easy to get drunk, raided more *cantinas.* Before dark the town was a bedlam of drunken soldiers. Their shouts, the screams of women, the groans of the dying, and the futile commands of the soberer officers trying to maintain some kind of order filled the air.

But discipline was gone. The men laughed at a command. They scorned the words of the gringo they had obeyed in their soberer moments.

A woman was weeping over the body of a man laying in the middle of the street. A crowd of drunks passing stopped and looked a moment. Then one of them plunged a bayonet into her back as she leaned over the man, and she dropped on top of him —dead.

And all that night the bedlam continued. I tried to find my horse to ride away from the hades that the drunken soldiers had made of the little town. The animal had disappeared. I found Soldani in a *cantina* with a number of officers. He had commandeered a copy of "Les Misérables" in Spanish, and was reading it to the crowd around him.

Empty bottles were scattered over the floor and a dozen, half empty, were on the tables.

I took several drinks. The officers were pleasant. Several of them complimented me on the work of my squad of gunners. I had riddled the *commandancie.* Some of my bullets going through the adobe walls killed those inside.

It was I who had made the place untenable, they said. Would the long senior have a drink, and another, they asked? To be sure, they added, their drinks were not like the delectable American beverages, but, such as they were, the long senior was doubly welcome.

And who knows, they added again, but what some day, when peace is declared, the long senior might be chief of the Mexican gunners and wear a general's insignia?

The wine flowed, and, finally, I saw fit to criticise Ojeda. This did not show any alarming ignorance on my part. It merely showed that I had not reached the zenith of power when I could go against one who owed allegiance to no one but himself, who thought that with his two hundred and fifty third-class brigands he owned the earth and the fulness thereof.

I was wrong. With my American aptitude to criticise, I had not fully realized the fact that I was no longer on American soil; that I was a foreigner; an Ishmael, a man who longing for the excitement of war had voluntarily

cast myself from the protection of my own government and placed myself where I was not really wanted, and where if they did not care to feed me I would assuredly starve.

Many Americans are like that. We think that the flag enfolds us wherever we are—and get richly fooled. I was.

I thought that, with our victories in the Philippines and our vaunted superiority over the little island of Cuba, no one would question me when, with the usual egotism exercised by Americans here and abroad, I saw fit to tell a Mexican colonel what I thought of his tactics, his men and himself.

He said nothing that night. When morning came and I awoke with a feeling of regret for what I had said the night before and the accompanying headache and dry throat that follows an over-indulgence in *aguardiente,* an orderly was standing by me.

At first I thought I was in the Philippines and the orderly was one of the constabulary, that all the intervening time was just a bad dream, that I was still nineteen, and an irresponsible, devil-may-care member of Uncle Sam's army of "pacification."

I listened a moment to hear the voice of Sergeant Griffes calling the roll. But his voice did not come. Instead, the orderly — an orderly whose trousers were of cotton, who had never used a tooth-brush and whose shirt was torn and soiled—spoke softly to me:

"Colonel Ojeda asks you to accept this." I omit the various complimentary phrases he used in saying this.

I looked at "this." One of the papers was a pass through any constitutionalist lines I might encounter. The other written on the flimsy they use for love-letters in that country informed me that the colonel did not need me any longer; that I would be better off above the Rio Grande; that there would be another shooting squad detailed that day at noon, and if a certain tall American was not out of camp his name would head the list of the shootees.

Then the events of the previous night came to my mind. They came in spite of the headache; in spite of the dark brown taste I had in my mouth; in spite of the fact that I did not know where my horse was—and it was ninety miles to the line—but I could not feel any regret at my criticism. Soldani was sleeping peacefully on the floor at the other side of the room. A chinch bug slowly walked over his breast as it rose and fell with his regular breathing.

I woke him and showed him the notes.

"Throw the pass away," he said, "there are no rebels between here and the big river, and if the federals catch you with that paper on you they'll hang you. If you see the 'feds,' tell 'em you're a refugee; that you left your family in Monterey and are getting out. And good luck to you, old man. You surely had a sarcastic jag on you last night."

"And don't you want to go with me?" I asked.

"Nix on the going," he answered. "I'm no tactician. I never served as an officer in an army in my life, and ain't going to—pardon the bad English—and I never laid eyes on a rapid firer until you began fooling with those two the other day. But we don't have to work here, and we eat—sometimes—and there is always plenty of excitement. Sorry I can't go with you. Got any money to feed on when you get above the big drink?"

"I've got forty American dollars sewed in my shirt."

"For goodness sake, don't say it out loud! If they knew that you'd never get a mile away from camp, alive. Well, so long, and good luck to you."

And thus I left the man I had last met in the park in Memphis. I may meet him again in Tegucigalpa, or maybe in Portland, Maine.

Then came the hike to the border. I was told that it was ninety miles. It seemed twice as far as that to me. My feet got sore. My body was lank. I

made the trip in three days with but two *tortillas* (corn cakes) to eat. I could not buy food, and there was none to steal. The people had none to sell or to give away. They were worse off than I was.

I knew that when I reached Laredo, I would have plenty to eat, to drink, to wear. The people in the towns I passed through, most of them women and children, had no chance of ever getting anything; they had no future; no ambition for to-morrow.

While passing through one little town a dozen or more boys and girls came out and spat at me and made insulting remarks to "the walking gringo." It must have been that at some time an American had done them harm. They followed me for probably half a mile and then fell behind.

I did not get angry. Instead, I was sorry for them; appalled at their poor wasted little bodies. I had Laredo and the Hotel Hamilton to look forward to; they had nothing but the starvation and the nakedness of the present. I smiled at them when they spit at me, and when my feet outdistanced theirs I turned round and watched them go back.

It is cold up on the plateau of Northern Mexico. Sometimes, tired of bearing the pain that the sand in my shoes gave me, I would scoop a hole out and cover myself up with sand, and sleep, only to wake in an hour or two, numb and cold. But I slept, and it was sweet sleep.

And while I slept I dreamt of good meals, of riding in warm trains, of playing billiards in Y. M. C. A.'s, and, all at once, I would wake in the midst of the cold of the desert.

Sometimes it was night when I slept and, again, it was daytime. I could never sleep more than an hour or two at a time. Slumber could not grip me hard enough to keep the cold from waking me. I would wake, shake the sand out of my shoes and toddle on.

It was sleeting a little the night I came to the big river. I was about twelve miles below Laredo. There was neither ferry nor bridge. I waded out into the cold water as far as my six-feet-one would allow and then struck out. At the time I felt so miserable that I was really not particular whether I ever landed on the other side or not. But after half an hour of swimming, my feet touched bottom, and I waded the rest of the way.

The rest of this story is but a tale how I walked up to Laredo, got a hot bath, a change of clothing—of hours in a warm bed and of the trip through the snow-covered states, where I had to pay fare, and the Christmas dinner I never ate.

I could have gone into the diner and told the porter to give me what I wanted, but that is too commonplace to tell here.

The Curse of the "Mecanista."

THE student *fogonero* (fireman) told me the following story as we sat on the sand at the edge of the camp fire. But he is no longer a student *fogonero;* he is now a private in the *constitutionalista* army.

He told the story merely to illustrate the potency of the curse of a dying Irishman. Heroism did not appeal to him, or, perhaps, he could not see the heroism of the act. I had been telling him a Banshee story of Conemara, and he wanted to tell one to match:

The first passenger train for many days pulled out of Saltillo for Monterey. In it were a number of women and children, and a few men. Most of the men had sent their families north, while they remained to protect their property in the south. Some of the men had all their savings invested in Saltillo; they wanted to protect a portion of it to care for the loved ones they were sending to safety in the big country north of the Rio Grande.

The train ran as peacefully as a train should run until near Capricorni. Here it was flagged by a lone man.

Thinking that he needed help, the engineer, Ed Meagher, stopped the train. Hardly had the line of coaches stopped, when a party of men came from behind the cactus, waving their guns and making for the cars.

Meagher started the engine. He recognized the men, not as rebels or federals, but as an outlaw gang that infested that part of the country and claimed allegiance to neither side in the conflict. They were robbers and murderers.

A long train is hard to start. When the gang of brigands saw it starting they commenced shooting, most of the shots being directed at the engine. Meagher fell from his seat, mortally wounded. The fireman, thinking he would get quarter from the bandits if he stopped the train, jumped for the throttle. At this action the dying engineer came out of the faint caused by the pain of his wounds and grabbed the fireman's legs.

"They were in the gangway, *señor,*" the student fireman told me, looking into the fire, as if the picture were before him. "The big *mecanista* (engineer) had his arms twined around the legs of the fireman, and was holding him away from the throttle. The engineer was trying to say something, but could do no more than to spit blood.

"I was on the fireman's seat and was too frightened to move. At length the engineer was able to say, 'Don't shut her off! Don't you know what those devils will do to the women back there?'

"The fireman, who, I think, had gone mad from terror, struggled to reach the throttle.

"'I can't hold you much longer, you crazy devil,' the engineer yelled, and, *señor,* he spoke the words in a tone of voice that sent cold chills down my spine. We were gaining speed, and the bandits were drawing closer, all the time shooting at the engine.

"'If you touch that throttle,' the engineer said a moment later, 'I hope your hand will wither!'

"With these words a gush of blood came from the mouth of the big engineer, and his hands fell from the fireman's legs.

"Then the fireman gained the seat of the engineer and reached for the throttle. At that moment the curse of the big gringo came true. A bandit's bullet shattered the fireman's wrist.

"With a shriek he fell backward. As he did so another bullet hit him in the abdomen. He fell on top of the engineer. I cowered on my seat, while the train pulled away from the bandits.

"Both engineer and fireman were now silent. The engineer seemed to be asking me to do something. He wanted steam for his engine. I pushed the bodies to one side and shoveled in coal as the fireman had taught me.

"I did not try to stop the train, for I had heard the curse of the big engineer and thought that it would descend to me if I touched the throttle. So I shoveled in coal and worked the lever of the pipe which feeds water (the injector) as the fireman had told me to do, watching that the water stood as high in the little glass as the width of my hand.

"And the engine ran as smoothly as ever, for its master was watching—although he was dead.

"After a time I quit feeding coal into the fire-box because the pipe which feeds the water would not work although I drew the lever out very carefully.

"Finally the engine slowed down and stopped altogether, and the *jefe el tran* (conductor) came forward and talked in your language:

"'What's th' matter, Meagher?' he asked.

"I told him in my language about the curse of the engineer, and that I had been afraid to touch the throttle, although I knew how to stop the train.

"'You did right, Austine,' he said, 'for we have left those beggars behind.'

"Another man, who could run the engine, came forward. He fixed the

pipe which feeds the water, and we came on to Monterey.

"'*Señor Jefe el Tren,*' I said to the conductor, 'may I have some little thing belonging to Señor Meagher to show that he has not cursed me. Just a little scrap of paper he owned that I may carry with me always?'

"And the *jefe el tren* smiled as if he was going to cry, and said, 'Here, Austine, is something Señor Meagher prized very much, and his curse will never rest on anyone who carries it.'

"He gave me a little piece of paper in a case of leather. I now wear it on a string round my neck to show that I have the blessing of the big engineer who could wither a man's hand with a curse."

From underneath his shirt he drew a little leather case. I opened it and examined the soiled paper. It proved to be Meagher's Y. M. C. A. membership card.

Some Crafty Bridge Wrecking.

IN some parts of the South a dining-car porter cannot serve a drink unless it is sold with food. That is why, during the cold spell following the Christmas holidays, when the snow reached to the southmost boundaries of the United States, I went into the dining-car on a train for a chill-preventive.

The waiter gave me a sandwich about the size of a dollar (silver, not paper), and then served the drink. That day I paid for the same sandwich seven times. I know it was the same one, for after the porter had served it the second time, I made a dent in it with my finger, and he served that finger-dent with the sandwich every time.

Another man there was also cold, hungry, and thirsty, who visited that self-same porter as often as I did. Eventually we became acquainted. He was with the American Bridge Company, and is responsible for this story:

"I was coming out of Mexico from Chihuahua. Our train reached a bridge that had been dynamited but a few minutes before. The soldiers, who had dynamited the structure were still on the ground. As we could go no farther we unloaded to look around. I looked particularly at the bridge because I am interested in bridge building, and it happened that this one had been constructed by my company.

"One stone pier had been dynamited. No damage had been done to the others. The spans resting on the stone were swinging. I was examining the damage when an army officer approached and asked:

"'Pardon this intrusion on your privacy, but have you a technical knowledge of bridge-building?'

"'I have,' I replied. 'I am with the company which built this bridge.'

"'Ah, so,' he said. 'And how long would it take you to repair the bridge for the passage of trains?'

"There were piles of ties near the approach of the bridge that I could use to crib up the spans with, and, therefore, I answered:

"'I can crib it up in two hours so that trains can move over it safely if you will give me, say, fifty men.'

"I thought he wanted the bridge made passable and I was glad of the chance to show the Mexicans that one of our structures cannot be torn down without much more effort than they had put forth on that one.

"He left me and consulted with a group of officers standing nearby. Then he talked to the Mexican locomotive engineer. And what do you think they did? Why, they paid that engineer to start his engine, then get off and let it run through the bridge.

"But the bridge held. To-day, if you go there, you will see that engine and the bridge that held. The engine never succeeded in breaking through the span. Instead, it sank under the weight of the locomotive, one of those big International Mexican hogs, with an eight thousand-gallon tank.

"It is there yet, I believe, bent

in the middle. The tank makes one side of a letter 'V,' while the locomotive makes the other side. The cab forms the lower point of the letter.

"After I had watched several thousand dollars' worth of good machinery and steel ruined, the same officer who had questioned me asked:

"'Can the *señor* make this bridge passable for trains in two hours?'

"I turned away from him without answering, and, with the other passengers, walked until we found another train on the north side of the river.

"And I have always believed that if I had told the officer the bridge was completely ruined I would have saved a good locomotive and ten thousand dollars' damage to a good bridge. Let's have another!"

COULDN'T TELL WHERE HE LOST ROD.

EXPRESS drivers should represent the cream of their class, nevertheless, there were one or two exceptions who did not give that care and attention so needful to uniform success. One such brought about one of the most extraordinary accidents I ever heard of.

The man in question was a great favorite with the through running guards, owing to his willingness to "make up time at a pinch." The train was the 2.40 A.M., *ex*-St. Pancras, commonly called the newspaper train.

On the morning in question, in looking over the night foreman's report, I saw Tom's engine marked down as defective, and on inquiring was told that he had simply reported "connecting-rod lost." I was incredulous, and still further annoyed when told that he neither knew how or where he had lost it, and that little or no time had been lost. I immediately examined the engine and found the connecting-rod missing, the axle crank damaged, and the cylinder-end cracked, with more or less damage to the brake-gear.

I sent for Tom. He did not know how or when he had lost it.

"Did you examine cotters and set pins before leaving London?" I asked.

"Yes."

"Had you any trouble on the way?"

"No."

"Did you look at it at Bedford?"

"Oh, I looked at it at Bedford, and it was all right then."

"Did you hear anything unusual in the way of a knock?"

"No, the only thing I noticed was that something smelled hot. I went on the side of the foot-plate, but saw nothing."

"Where was that?"

"I think it was somewhere the other side of Little Bowden."

"Were you running faster than usual?"

"About as usual."

"Who looked after the injectors?"

"My mate, of course."

"Did the boiler prime at all?"

"No."

I had before that satisfied myself that the boiler was clean, but I had already an idea of the cause, and in the absence of further information sent him home to rest. I then wired the Little Bowden station-master to ask the foreman ganger if anything had been found on the line.

Then taking the diagram of that section of the line, I selected a clear-headed passed fireman who knew the road well, and provided him with a note-book, pencil, and an empty sandbag, and instructed him to take a slow train, then about to leave, proceed to the station beyond Little Bowden, walk thence to that station, and to note down carefully where he found the first evidence of broken brasses.

The man returned after being away four and one-half hours, with the bag full of pieces of big end brasses, and his note-book showed how exact my anticipations and surmises had been. He first noticed splashes and pieces of white metal on the ballast and sleepers, his next find was a piece of brass bearing, then three other pieces. Some distance intervened, then the connecting-rod in bulk, fortunately lying between the rails. Thus I was enabled to build up a theory which was proved afterward to be absolutely perfect in every respect.—From *The Railway Magazine*, London.

Punctuality in all things gives weight to a man's word. Watch your time-card.

Over the Hill Division.

BY CHARLES W. TYLER,

Author of "When 505 Went to Glory," "When 6 Passed Summit Spur," "When First No. 18 Ran Wild," "Keepin' a Fire in 'Flatfoot,'" "Hiram's First 'Sine,'" etc.

Tom Kane Proved During One Maddening Cab Ride that He Was More than Half a Man.

IT was just twenty minutes past midnight when No. 520, the Overland Mail, on time to the second, thundered across the outer yard switches at Silver Falls. But instead of streaking by the darkened station with a waving plume of white fluttering defiantly above the dome of her big 4-6-2 Pacific—instead of her usual haughty roar as she crashed over the switches and swooped down around the long, sweeping curve, past the station, and on into the mountains toward the east, with but a scant gripping of her brake-shoes in hurried deference to the interlocking system—instead, she set her brakes in a mighty fire-fringed grip and, struggling back against the momentum of her six hundred tons of iron and steel, slowed to a reluctant, quivering stop, opposite the smoke-grimed station.

The third-trick despatcher, leaning over his train-sheet in the telegraph office on the second floor of the gloomy, gray building, swore. Every second the mail fell down on her lightning schedule meant additional train orders, with the accompanying worry and strain in guiding the midnight flier safely over the Hill Division's single iron.

With an impatient gesture Holleran brushed his green eye-shade back on his forehead and stared expectantly at the door. Visions of the mail running late because of new meeting and passing points and a wholesale derangement of his already overcrowed third trick flashed before his tired brain.

A moment later old Joe Howe, the engineer of No. 520, burst into the room. He was closely followed by a greatly agitated conductor.

"Get me a fireman!" roared the engineer, without wasting words on preliminary greetings. "Get me a fireman! That fool of a spare man who caught the job to-night busted his hand just west of here using the shaker-bar!"

Holleran groaned. It was worse than he had expected.

"There isn't a fireman this side of Clear Lake," he snapped. "The night switcher has gone over to get her fire cleaned, and the day crews all live there. It means sending for one and holding you up till we can get him here."

And the exasperated despatcher reached for his key and began calling "OX," the yard office at Clear Lake.

Just then a short, greasy, overall-clad figure appeared in the doorway.

"Mr. Howe," piped the thin, apologetic voice of the newcomer, "I can fire—"

Then, apparently half frightened

by its own sound and completely routed by the glaring eyes of the engineer, the voice of the speaker trailed off weakly in its trembling assertion and was drowned by the incessant chatter of the telegraph instruments.

"Fire!" thundered Howe, as he scowled at the figure before him, while his eyes traveled from the greasy cap to the shabby shoes of Tom Kane and his squat five foot two. "Fire what?" Without awaiting a reply he continued his tirade, seemingly glad of some one on whom he could turn his exasperation without danger of drawing a return fire.

"I said that I wanted a fireman. A man—that's what I'm after! One whole, big man—that's what it takes to fire No. 520! Two hundred pounds all the way! Take it from me, boy, it's a man's job! Huh, *you!* You're only a runt! You ain't *half* a man—not half a man!"

Even the set features of Holleran, who was incessantly pounding his OX call, relaxed into a half-pitying smile as he gazed at the shrinking figure near the door.

Tom Kane, standing in the shadow just beyond the circle of light which poured down on the great white train-sheet, was a woful contrast to the three big, assertive railroad men before him: the engineer of the Overland, the conductor, and the third-trick despatcher of the Hill Division. They were a part of the wonderful, throbbing railroad game, while he was only Boozer Kane's boy—just a plain, greasy, grinning laborer.

He tended fires and occasionally fired a switcher when the regular man failed to show up. He was just a lobbygow, a messenger, a slave for every man who could lay a finger on him, day or night.

He had a short, thick-set body, which was at all times awkward; but as he walked it appeared doubly so, owing to his slouching, shambling gait—the mark of a drunken father. He had pale-blue eyes and a thin, peaked face, which showed no hint of aggressiveness. That perhaps was due to the fact that Tom Kane was one of the few people who are ordained with the power to see themselves as others see them. Therefore, he was not deceived regarding his own unpromising appearance.

But Tom Kane was human. He had hopes and ambitions; there was red blood in his veins, and he only awaited a chance to show that under his grimy skin there was the God-fearing soul of a man inside of him.

For seven years he had toiled and watched and waited for the first faint tap that might betray the presence of opportunity at his door; but it never came. And while he waited he dreamed his dreams just as does every human being. Half of life is the pleasure of looking forward and hoping that we may see our dreams fulfilled, but with Tom Kane that hope was lacking; for he realized that in all probability his dreams would never be more than thin, elusive castles of the air.

In all of his little world, back in the shadow of the mountains, only one person believed in him, sympathized with him, and encouraged him in his hungering desire for the right to struggle on equal footing with the men of the railroad game — the big, red-blooded men of the Hill Division.

That one person who pinned her simple faith in Tom Kane was a little gray-haired mother who united the shattered love of his dead father with the everlasting mother-love, and through her mother eyes of devotion she saw, not the shambling figure of half a man, but instead a man-grown man—her boy!

When No. 520 stopped at Silver Falls, Tom Kane, who had been watching fires on two big freight pullers in the west yard, hurried to the station. He had followed the engineer and conductor to the despatcher's office, and there learned of the accident to the fireman on the mail.

Just as the drowning man clutches frantically at the proverbial straw — just so Tom Kane clutched feverishly at this opportunity.

Its unlooked-for appearance completely unnerved him. It was with the utmost difficulty that he forced from his lips the weak, trembling assertion: "I can fire."

Then, as he listened to the old engineer's stinging rebuff, he was possessed with a wild desire to flee to the protecting darkness outside. But with his heart beating feverishly and his whole being in revolt at the thought of losing this golden opportunity to make good, Tom Kane for the first time in his life held his ground.

Half in fear and half defiantly, as his one fleeting chance seemed to be slipping hopelessly from his grasp, he drew a long breath and, keying his voice to a pitch which seemed to him to be much louder than he had ever dared speak before, he shrilled his former statement: "I *can* fire!"

Something within him seemed to urge him on during the momentary lull following this second declaration. He determined to strengthen his position by a third assertion:

"I tell you I *can* fire, Mr. Howe! *I can!*"

Whether Tom Kane's point of debate would have won if it had not been for the despatcher is not known, but it was here that Holleran closed his key with a snap and, muttering maledictions on the operator at OX, he turned to the engineer.

"For God's sake take Kane, there, and gave him a try!" he exploded as he banged his fist on the table. "I can't raise that ham operator at Clear Lake, and I'm not going to knock out No. 520 and everything else on the road while I'm trying! Give him a try, Joe"—the despatcher nodded toward the man near the door—"and if he can't keep her hot grab the fireman on the extra that'll clear you at Indian Head!"

In desperation the engineer glanced at his watch, and from his watch his eyes fastened themselves on Tom Kane, causing that strangely elated person to fidget uneasily as he tried to return the gaze unflinchingly.

"See here, you!" snapped the engineer. "You get down onto that engine! I'll soon know how much you can fire, and if you're bluffing—if you fall down on me—you can make up your mind that you're all done on this division!"

Kane lost the final part of the threat because he was tearing down the stairs. His heart was filled with a great joy. Every emotion known to his simple soul seemed to be wildly clamoring for expression as he shuffled toward the big, black mountain racer, panting at the head of the waiting train.

Four impatient blasts of the whistle; the flashing of a lantern, over and back; a halting, stammering roar; a stream of sparks from the rails beneath the slipping drivers, and the Overland Mail noisily resumed her interrupted eastward flight. With her long night run barely begun, she was fifteen minutes late.

Never, even in moments of his wildest imagination, had Tom Kane been able to conceive the thought that some day he might get a chance to fire the Overland—the great midnight flier.

And now that he found himself in the cab of one of the big engines he worshiped, it was almost more than he could realize. At length, his dream was breaking through its shell and taking life.

Kane started his task like a veteran; but it was arduous work. He was short, and the automatic fire-doors were high, which meant straightening his body with every swing of the coal-laden scoop.

As No. 520 gained headway there crept slowly over him a strange new feeling which he had never sensed before. It was the feeling of a man before a battle: nervous apprehension, impatience, hope, determination, and what not.

A score of wild emotions gripped him as they swung out into the open country, past the last shimmering switch-lamp and on into the hills, where the great engine settled into her mighty stride.

It was the speed, a breathless, dizzy flight, which seemed to increase with lurches and bounds, that drove these new emotions surging through the veins of Tom Kane. It was the changing of long dormant blood corpuscles into red-blooded atoms which constitute a virile man. This charging, thundering, swaying, battling life was a thing that he had never known.

There was a wild, chaotic medley of things which had never before entered into his life. The purring roar of the exhaust; the shrill hum of the injector; the whir of the madly racing drivers; the slashing sweep of the wind through the gangway, with its accompanying hail of pelting particles of flying coal which beat incessantly against his face; the sickening lurch and roll that ever threatened to hurl him out into the night; the occasional harsh scream of the whistle — it was all merged into a madly confusing tumult of motion and sound which enveloped, smothered, frightened, and left him gasping, struggling, staggering, fighting in a grim determination to keep that trembling needle straight up and down on the gage—two hundred pounds all the way.

The white, torturing heat from the roaring fire-pit blistered unmercifully through his threadbare jumper. Little beads of perspiration burst in glistening drops from his forehead, and, in smarting, reeking streams, rolled down into his eyes and across his blackened face.

He squinted his lids and wrinkled and twisted his face into many grotesque grimaces in a useless effort to repel the biting ferocity of the heat which attacked him as he struggled with the big, smoking-hot hook. The bewildering sheet of flame dazzled him and almost seared his lashes in its nearness; but not for an instant did he falter.

Blackened with grime, blinded with cinders and by the glaring brilliance of the fire, buffeted between tender and boiler-head, aching in every bone and muscle of his little five foot two, Tom Kane fought a gritty, determined battle for mastery — mastery of that two hundred and seventy-two thousand pound mass of iron and steel.

He fought to make steam—the power which would drive the Overland Mail over the division and into Gunnison on time. It was an uphill battle for an inexperienced man. It was more than just an uphill battle for Tom Kane—it was *two* big battles against odds.

He was fighting to overcome the half a man in his soul, as well as the half a man whom old Joe Howe had scorned in the despatcher's office at Silver Falls.

Over every saggy, winding, rock-bound mile, there on the lurching engine's deck, in the intermittent glare which burst from the ever opening and closing automatic fire-door, he fought to make steam; he fought to overcome a strange, awe-inspiring terror which gripped him as the train thundered through the night.

As they crashed over the switches at Livingston, old Joe Howe leaned down from his seat and, with a touch on the arm, he drew the fireman near him.

"Boy," he said, and there was a note of commendation in his friendly advice, "you're doin' a good job. Now, Fifteen Mile Hill's right ahead, an' I'm going to drag it out of her. Watch your back corners. Fire 'er light an' fire 'er often. If you can keep her up against the pin 'till I bat 'er past Summit, we'll wheel 'em into Gunnison right on time."

Just a kindly word of encouragement and a friendly pat! It's a mighty big asset in many a man's life when he is near the turning point.

Tom Kane was thrilled by the engineer's tone. Just a word of praise.

He was making good. Had Joe Howe seen the look of gratitude in the blue depths of the black-rimmed eyes, he would have known that he had made a friend for life. And before that night's run was through it meant a friend through life—and death.

For a moment Tom Kane's thoughts flashed back to the little mother. He wished that she might see him—one of the world's miserables changed into a determined, fighting man. He could see the loving pride that would come into her eyes when she learned that her boy had fired the Overland; for she knew the game and would understand.

Drawing a greasy sleeve across his steaming face, and with renewed life, he again bent to his task. He was beginning to gain confidence.

No. 520 had made her last stop for water; and with Gunnison but fifty miles away, was once more settling into her mad pace when one of life's strange, unforeseen tragedies occurred in the cab of the engine.

From somewhere in a vast, mysterious interspace death reached forth a silent, all-compelling finger and rested it on old Joe Howe.

Silently, peacefully, without a movement or a murmur; with his hand still on the throttle and his clear, watchful eyes closed forever—he crossed the Great Divide.

It was not until the engineer failed to start the injector that Tom Kane noticed anything wrong. Then a strange, horrible premonition came over him as he stepped up beside old Joe and touched him on the arm.

It was then he noticed that the engineer's head had dropped forward, with his chin resting on his chest, as if he were asleep.

With a wild fear in his heart the fireman laid the back of his hand against the cheek of the engineer. It was cold.

A frantic terror seized him. He shook the silent figure. His voice rose in a shrill shriek which sounded above the battling roar of the engine:

"*Joe! Joe!* What's th' matter?"

Again he shook the limp form; but the only response to his effort was a slight relaxation of the body. A gripping, paralyzing horror overwhelmed Tom Kane. With a choking, gasping sob he realized the truth.

For a minute every atom of self-possession seemed about to desert him. The grim realization that he was alone in the cab of a great Pacific engine with a man who had been suddenly stricken by death awed him, unnerved him, threatened to deprive him of his newly gained manhood, and to force him again into the timid, nerveless half a man of his yesterdays.

It was one of the biggest moments of Tom Kane's life—it was the crisis. He hesitated; and then the night's new-born fighting spirit came to his rescue. He realized the great responsibility which rested on his shoulders, and unconsciously he threw his head up as his thoughts turned to the Overland Mail, her passengers, her trainmen—all in his keeping.

And as he had stepped into the breach made by an injured fireman, now, with the same set determination, he stepped into the breach made by the death of his engineer.

He reached up and took the time-table from its rack above the cab window. And while he hurriedly thumbed its pages, as if to reassure the silent form beside him, he muttered in a half audible monotone:

"Don't yer worry, Joe; don't yer worry. I ain't goin' ter lay down on yer. I'm goin' ter take 'er in. There ain't goin' ter be no slip ter mar yer last run. I c'n take 'er in—I c'n do it! I gotta do it!"

He stared out into the uncertain light of daybreak. "Where are we, Joe? Where are we, anyhow? I ain't learned th' road yet, yer know."

Through the mist of early dawn a few scattering switch-lamps twinkled before him. Then came a clattering roar as they crashed over some yard-switches and shot past a lonely station.

He caught a fleeting glimpse of the name "Ilwaco." He ran a grimy forefinger down the column beneath the number, 520. "Gunnison, 5.32 A.M." He checked the miles: "Ilwaco—Gunnison—thirty-eight."

Reverently, he carefully slipped the watch from the pocket of the engineer's blouse, and, leaning close, he studied the figures on the dial. It was 4.54. He replaced it, and reaching for the throttle pulled it wide open. Bracing himself, he struggled with the big Johnson Bar until he had dropped it several notches lower.

"Thirty-eight miles an' thirty-eight minutes, Joe," he explained in the same droning undertone. "We gotta do one every minute — one of 'em *every* minute—Joe."

He started the injector, dropped to the deck, and reached for his scoop.

Gasping, staggering, fighting on the reeling deck; watching, studying, guiding beside the body of the old engineer, Tom Kane, with a dogged, mechanical precision, fought his first big battle of life alone in the cab of the Overland Mail. Back in the Pullmans, as the tinted rays of a rising sun broke their slumber, not one of the fourscore passengers gave a thought to the men at the battling head who had guided them swiftly and safely through the night. Not one of those back amid the varnished, plush-made luxury of the midnight flier realized in the slightest degree the drama of life which had been enacted in the cab of the big Pacific.

Nervously clutching the handle of the brake equipment, Tom Kane stared out across the great North River and its green and silent valley. Far around a big crescent loop he saw many white jets of steam and many black blotches of smoke which issued from engines in the yards at Gunnison.

No. 520 thundered past a distant signal which showed clear; past a home signal, also white; and then, beyond a smoke-blackened bridge, Tom Kane saw the grimy tower, and close beside it another mountain racer which awaited the coming of the Overland. It was the end of the long night run.

Tom Kane brought the Overland Mail to a shivering, grinding stop opposite the tower at Gunnison, and once more examined the engineer's watch.

"Poor ol' Joe," he murmured softly, "it's yer last run — yer last time over th' ol' Hill Division. But it's all right—it's all right. See, it's just five thirty-two — right on th' dot. We brought her in on time, Joe — you an' me."

HOW HARD CAN A HORSE WORK?

ENDURANCE is the horse's weakest point. Ten hours a day is often assumed as his working period. Authorities claim that eight hours is better, or that six under a heavier load will accomplish the same volume of work with less tear and wear on the horse. The average farm horse cannot be depended upon for more than thirteen to fifteen miles of pull a day, nor more than four to six hours of work per day, as an average of even the busiest months. Properly handled, says *Express Gazette*, working six hours a day, well and carefully fed, a horse may have a working life of ten years of 1,000 hours each. The average farm horse will do well to develop 500 horse-power hours per year, or 5,000 in ten years. About twenty per cent of the horse's weight may be taken as his maximum sustained draft, and six to eight miles per hour as his maximum sustained speed for anything more than an hour or so per day. The draft horse gives the largest volume of work per day at one-half his maximum load and one-third his maximum speed.

Forget the jobs that are not big enough for you. The jobs that are too big count most—when you can fill them.

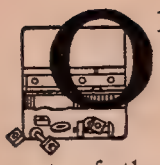
BIRTH OF THE KANSAS PACIFIC.

Construction of Important Union Pacific Branch Line a Warlike Chronicle of Struggling Pioneer Railroaders.

INDIANS SAVAGELY OPPOSED BUILDERS.

After Many Desperate Attacks in Which Numbers of Laborers Were Killed, One-Half of the Entire Military Force in the West Were Stationed Along the Proposed Route Between the Missouri and Colorado Rivers to Protect the Track Layers.

BY CHARLTON ANDREWS.



ON the south side of the track at Victoria, Kansas, on the line once known as the Kansas Pacific Railway, now a part of the Union Pacific Railroad, stands a large granite block bearing the following copper-plate inscription:

> This stone marks the burial place of six track laborers who were in the employ of the Union Pacific Railroad, Eastern Division. While on duty about one mile west of here they were massacred by Cheyenne Indians in October, 1867.
>
> Erected by the Union Pacific Railroad Company.

This memorial gives the key to the history of the building of a railroad. Not even the main line of the Union Pacific had a more sanguinary history than the Kansas Pacific, which ran through the heart of the choicest hunting grounds on the continent.

Of the 306,475 Indians in the United States in the seventh decade of the nineteenth century, 94,720, or nearly one-third, occupied the territory along the route of the Kansas Pacific between the Missouri and the Colorado River. The Indians recognized in the railroad the forerunner of civilization. Naturally they fought with all the desperate ferocity of savages driven to bay.

In the desperate warfare they waged, one hundred and five companies, or nearly one-half of the regular soldiers in the entire West,

This is the seventh of our series of articles describing the beginnings of the great railway systems of the United States. The first, "The Birth of the Pennsy," appeared in December, 1911; the second, "The Birth of the N. P.," in February, 1912; the third, "The Birth of the P. and R.," in March, 1912; the fourth, "The Birth of the C. and O.," in September, 1913; the fifth, "Birth of the New York, New Haven and Hartford," in December, 1913; the sixth, "Birth of the D. and R. G. System," in May, 1914. All of these back numbers are for sale at this office.

were distributed along the proposed route. This force was so inadequate for protection that they had to be reenforced by volunteers. General Sherman at one time had to take the field to enable the work to go on.

The House Committee on Military Affairs, in a report dated May 25, 1868, estimated that the Kansas Pacific Railroad would save in the cost of transportation of army supplies in less than six years enough to reimburse the government for the entire loan necessary to extend the road to the Rio Grande. The importance of the railroad in controlling the turbulent tribes of the plains was one of the leading arguments that induced Congress to lend the government's aid.

The Kansas Pacific was an integral part of the original transcontinental railroad which, after years of discussion, crystallized in the act of Congress approved by President Lincoln on July 1, 1862.

Made a False Start.

Summarizing the act it may be said that it authorized a railroad system modeled after a two-tined pitchfork, the handle of which extended through the Rocky Mountains to the Pacific, one tine reaching to the Missouri River at Omaha, where it was to connect with the railroads then groping their slow way across Iowa; the other reaching the Missouri River at the mouth of the Kansas River to connect with the Missouri Pacific which hoped to reach that point some day.

In effect, Congress sanctioned a race between the two tines. Whichever branch reached the junction point, which was fixed at the one hundredth meridian in Nebraska, or 260 miles west of Omaha, was to be the main line, with the privilege of building on to a connection with the Central Pacific, thus completing the transcontinental line. The race was won by the Nebraska tine.

The Kansas tine, after obtaining permission to change its course, started for California by a more southerly route, only to swing up to Cheyenne by way of Denver and stop there. Since then it has been busy earning dividends.

The Kansas Pacific started first, but it proved to be a false start. In fact, there were several false starts. The road was originally chartered by the Kansas Legislature in 1855 as the Leavenworth, Pawnee and Western Railroad. This was four years before the Hannibal and St. Joe, the first railroad to reach the eastern border of Kansas, laid its rails into St. Joseph, Missouri.

The Leavenworth, Pawnee and Western was authorized to build from the mouth of the Kansas River, where Kansas City, Kansas, now is, by way of Leavenworth to Pawnee, near Fort Riley, thence northwest to the one hundredth meridian in Nebraska. But like most other railroad schemes, this one had no money back of it.

Not till September 19, 1862, was a contract signed for construction by the terms of which Ross, Steele & Co., of Canada, were to build westward simultaneously from the mouth of the Kansas and from Leavenworth. After Ross, Steele & Co. had spent $50,000 in preparations, and had one hundred men at work, control of the Leavenworth, Pawnee and Western was purchased by General John C. Fremont, son-in-law of Senator Benton, Samuel Hallett, of New York, and others.

Dragoons Charge Construction Force.

The first act of the new owners was to change the name of the road to "Union Pacific Railway, Eastern Division." This was the Union Pacific Railway, while the Nebraska line was the Union Pacific Railroad.

The next step was to notify the contractors that the new company proposed to do the work itself. Su-

perintendent Carter, in charge for Ross, Steele & Co., refused to abandon the work, whereupon Hallett, by some means known only to himself, got control of a company of dragoons which by his orders charged upon the construction force, driving it bodily into the river. On second thought Carter concluded not to do any more work on the Union Pacific Railway, Eastern Division.

Hallett next turned his attention to Leavenworth, the citizens of which, having concluded that they were indispensable to the road, proceeded to mark up prices on everything that Hallett had to buy. The mayor announced that he would hold the bonds voted by the town to aid the railroad until a certain number of miles of track had been laid.

Hallett left Leavenworth in disgust and went to Wyandotte, at the mouth of the Kansas River. Here ground was broken for the main line on September 7, 1863, nearly three months before ground was broken at Omaha for the Union Pacific.

Backed Engine Into River.

H. H. Sawyer, the foreman in charge, handed an ax to A. B. Bartlett, a lawyer, and Silas Armstrong, an educated Wyandotte Indian, telling them each to fell a tree. He whose tree fell first was to have the honor of turning the first sod.

Armstrong's tree fell first, but remained fast to the stump. Bartlett's tree fell a few seconds later, clean cut, so he turned the first sod.

The first rail was laid on April 14, 1864, near what is now the foot of Minneapolis Avenue, Kansas City. A few days later the first locomotive, a dilapidated wood-burner that had been used by the government on the Alexandria and Manassas Railroad in Virginia, arrived on a barge from Weston, some miles up the river, then the nearest railroad point.

The locomotive had left Chicago the previous December, but did not reach the Missouri River until it had frozen over, so it could not be delivered till spring. Rails were laid down the bank up which the old locomotive was laboriously dragged. It did not stay there long, for J. L. Hallett, brother of Samuel, eager to acquire experience as a locomotive engineer, fired up and started out. At the first move he ran the engine off the end of the rails into the Missouri River where it lay for days with its nose submerged in the yellow flood.

Shot for Spanking Cripple.

Hallett issued invitations July 1, 1864, for an excursion to celebrate the opening of the first forty miles of the road from Wyandotte to Lawrence. The excursion did not occur, for O. H. Talcott, chief engineer, a friend of Lincoln's, reported to the President that the road was too poorly constructed to meet the requirements for earning the government subsidy, and that Hallett was not paying his bills.

On hearing of this Hallett wired his brother Tom at Wyandotte to slap Talcott's face. Tom, a large, muscular man, carried out his instructions with gusto by disarming Talcott, a small man, crippled by a stroke of paralysis, and then taking him across his knee and spanking him.

To avenge this affront, Talcott shot Samuel Hallett, July 27, 1864, killing him instantly. Talcott, aided by the settlers, who disliked Hallett, escaped on horseback.

After Hallett's death John D. Perry was chosen president of the company. His first act was to discharge Tom Hallett. His next was to repair the road to bring it up to government standard. The track was completed to Lawrence on November 26, 1864. Regular train service was established on December 19.

Pioneer "Safety-First" Agitator.

It was while the Kansas Pacific extended from Wyandotte to Lawrence that the original "safety-first" man appeared. This safety-first apostle

was E. M. Bartholow, superintendent, who proudly boasted on every possible occasion that he never had a collision on his road. It was true, too, for there was only one locomotive in operation. Henry Tuell had the honor of being the first engineer, while John Broadus, afterward for many years chief of police of St. Joseph, was the first conductor.

After reaching Lawrence the company made a contract with Shoemaker, Miller & Co., to build the next 250 miles of road. Robert M. Shoemaker, the head of the firm, was a real railroad man from the Cincinnati, Hamilton and Dayton.

He promptly brought order out of chaos. Soon after his arrival on the scene the Union Pacific, Eastern Division, began to resemble a railroad. He worked under difficulties, for in the absence of railroad connections with the East, every pound of material and supplies had to be brought up the Missouri River on steamboats.

139 Miles in Nine Hours.

The Kansas Legislature became so impatient to revel in the delights of railroad travel that it adjourned for four days on January 19, 1865, and journeyed by stage to Lawrence just to ride to Wyandotte and back again. Had the lawmakers waited a year they might have boarded the cars in Topeka, for on New Year's Day, 1866, a cannonade which announced the establishment of regular train service between Topeka and Wyandotte, a distance of 67 miles.

The end of the track had crept onward to Pawnee, on the Fort Riley reservation, 135 miles west of Wyandotte by October 7, 1866. The United States commissioners then formally accepted the first 130 miles of track in behalf of the government, thus releasing the land grant and a $2,080,000 cash subsidy.

Passenger-trains began to run into Junction City on November 10, 1866. The time-card allowed nine hours for the 139 miles between Wyandotte and Junction City. Now the limited does it in three hours and thirty minutes. Formerly the stage fare had been ten dollars; the railroad cut the rate to nine dollars and captured all the business.

Work was resumed the following spring as soon as the frost was out of the ground. By April 29, 1867, the track had reached Salina, 186 miles from Wyandotte. Soon after this the real troubles of the railroad builders began.

15,000 Indians on War-Path.

When the grass was high enough to pasture their ponies the plains tribes combined for a more determined effort to turn back the advancing tide of civilization. This supreme effort was continued for three years, reaching a climax in 1868, when no fewer than fifteen thousand warriors were in the field harassing railroad builders in Nebraska and Kansas and murdering settlers, stage-drivers, and teamsters.

On June 28, 1867, the camp of J. B. Riley, resident engineer, was attacked. One man was killed and one severely wounded, while the Indians suffered six deaths. Shoemaker telegraphed Governor Crawford that unless protection was promptly afforded, his men would be driven off. General Sherman wired the Governor to raise six or eight companies of volunteers and that he would go to the front himself.

The Eighteenth Kansas cavalry was recruited and took the field July 15, remaining on duty with the railroad builders till November 15. They had a busy time of it, for skirmishes were of almost daily occurrence. There were not soldiers enough to protect the workers, though there was a large force of regulars in addition to the volunteers.

Every Worker Carried Arms.

The Indians showed their contempt for the white soldiers by dashing in almost at will to stampede stock or take a scalp or so. Matters became so seri-

ous that President Perry obtained from the government rifles and ammunition to arm every man at the front. This availed little, for the men with incredible imprudence habitually left their guns so far out of reach that they were of no use in case of attack.

Seventeen railroad men were killed in the summer of 1867. Many others were intimidated and driven off, hundreds of horses and mules were captured by the Indians and large amounts of material were destroyed. The contractors were obliged to offer big pay to induce men to stay.

To add to the horror, cholera, which had first appeared among the garrisons of the army posts on the plains, broke out in the construction camps late in June. There were many deaths. Finally the road had been located too low down in the valleys, so there were frequent washouts that delayed construction and cost much to repair.

In spite of this the new railroad was able to demonstrate its value to the government. In the year ending October 31, 1867, the road hauled 20,343 tons of government freight an average distance of 104 miles for $329,182. As the average cost of wagon transportation on the plains was $1.57 per 100 pounds per 100 miles, the government saved $335,138.

Lawlessness in Frontier Towns.

In this year the railroad also distinguished itself by dashing Buffalo Bill's dream of affluence. One of the line of forts established to protect the railroad construction camps was located 288 miles west of the Missouri River. The flag was first raised over the fort on July 4, 1867. It was christened "Fort Hays," in honor of General Alexander H. Hays, of the Sixty-Third Pennsylvania, who was killed in the battle of the Wilderness.

Buffalo Bill and some associates, figuring that a town near a military post would be a good thing, selected a fine site and named the place "Rome." When the track-layers arrived in October the railroad company, with provoking perversity, selected a site a mile nearer the fort, naming it "Hays City." That was the end of Rome.

Life for a certain class in those frontier towns was one continual orgy of gambling, drunkenness, and murder. There was so much shooting that it was not long before "Boot Hill Cemetery," so named by the frontier wits because all its occupants died with their boots on, boasted of seventy-five graves.

Yet the lives and property of orderly citizens were comparatively safe.

The railroad company changed its name on May 31, 1868, becoming the Kansas Pacific Railroad Company, which it remained until it was consolidated with the Union Pacific in 1880, when it resumed the name of that company.

Assailed by Mounted Horde.

In 1868 Indian warfare reached its climax. According to the report of the commanding officer, 353 white men, women, and children were killed by the Indians in the military department of the Missouri during the year. One of the most notable battles of the plains occurred. Colonel G. A. Forsyth, a veteran plainsman and buffalo hunter, with fifty men, was sent after a band of Indians which had attacked a wagon train near Sheridan, then the end of the track, killed four men and run off the stock.

At dawn Colonel Forsyth's command was rushed by a thousand mounted Indians. The band of whites escaped on their horses to an island in Arickaree Creek which they had chosen for such an emergency. Here they managed to beat back the Indians long enough to dig rifle pits in which they settled down for a siege. The Indians killed all the horses that they did not run off the first day.

The siege lasted nine days, during which the white men lived on tainted horse meat. On the ninth day help arrived, guided by two men who had managed to slip through the Indian

lines the first night of the siege. The whites lost five men, including Lieutenant Fred Beecher, a nephew of Henry Ward Beecher, and sixteen were wounded. The Indians lost seventy-five, including Roman Nose and Big Knife, two famous chiefs.

$100,000 Lost in Washouts.

The end of the track reached Fort Wallace, 420 miles from the Missouri River, on July 3, 1868. On the same date the Nebraska line of the Union Pacific was 648 miles west of the Missouri River, which gave it such a lead that the race had ceased to be interesting. Work on the Kansas Pacific languished somewhat, owing to washouts which tied up traffic for two weeks and cost $100,000 to repair.

The old Kansas Pacific developed some railroad men who made their names famous in after years. One of these was Thomas F. Oakes, who was secretary to Sam Hallett while he was the head of the Kansas Pacific. Oakes afterward became president of the Northern Pacific. O. S. Lyford, for a time general superintendent of the Kansas Pacific, was afterward president of the Chicago and Eastern Illinois. L. G. Thorne, a conductor on the road, became general manager of the Texas and Pacific.

General W. J. Palmer, who in 1865-1866, introduced a bill in Congress authorizing a tunnel, or a "tubular bridge under the Mississippi," as he called it, at St. Louis, was treasurer for a time, and afterward was superintendent of construction in building from Sheridan to Denver. He afterward was one of the foremost citizens of Colorado and the builder of the Denver and Rio Grande.

Trapped by Red Men.

Another man, who later won fame as the chief engineer of the Denver and Rio Grande, was Philip Howard Schuyler, who distinguished himself for bravery while locating the Kansas Pacific west of Sheridan. His party numbered thirteen, to which was added an escort of fifteen soldiers. One day while the escort was back with the camp outfit and the surveying party was strung out for a mile, Schuyler, who was two miles ahead looking out the location, found himself confronted by ten Indians.

Schuyler had left his revolver in camp. He had only a rifle with twelve cartridges in the magazine. The Indians had been watching for days, and had everything planned to a nicety. Schuyler put spurs to his horse and went vaulting over some gullies where the little Indian ponies could not follow.

The Indians had to make a long détour and Schuyler got so far ahead he lost interest until he saw forty more Indians between him and his party. They spread out into a circle which gradually closed in. Raising his rifle, Schuyler shot one Indian, then spurring his horse, dashed through the circle. The Indians tried to drag him off his horse, but he placed the muzzle of his gun against the body of one and blew a hole in him.

Refused to "Come Off."

This cleared him of the gang, which sent a shower of bullets and arrows after him as soon as he was clear. His blooded horse outdistanced the ponies in spite of his wounds. One Indian mounted on a horse stolen from a stage station, followed Schuyler, firing at every jump. After eighteen shots the Indian stopped shooting and pounded Schuyler's head with his spear handle, shouting in good English, "Come off."

"Under the circumstances," remarked Schuyler in his official report, "I did not deem it advisable to comply with the request."

Finally Schuyler's horse fell, weakened by loss of blood. The Indian rushed up to finish his job, but Schuyler shot him. The other Indians then came up, but Schuyler, throwing himself behind the body of his horse, fired again, killing another Indian. This dis-

couraged them and Schuyler was able to rejoin his party.

In 1869 and 1870 the Kansas Pacific began to realize on its land grant. Seven hundred thousand acres were sold for two million dollars. Twenty-two thousand acres went to a Swedish colony in Saline County; 47,000 acres to a Scotch colony in Dickinson County; 32,000 acres to an English colony in Clay County; 19,000 to a Welsh colony in Riley County.

State Settled in Record Time.

Brilliant work by the land department of the Kansas Pacific, and also by that of the Santa Fe, resulted in settling Kansas as no other new country was ever settled. Immigrants of the most desirable class poured in so fast that the transformation of the country was remarkable.

The cattlemen were quick to appreciate the value of the railroad. As soon as the track was laid to Abilene, 163 miles from the Missouri River, the live-stock traffic began to develop almost faster than the new railroad could take care of it. Joseph G. McCoy, of Springfield, Illinois, was first to conceive the idea that it would pay to drive cattle from the ranges to Abilene and ship to market. Yards were opened in the fall of 1867. Two thousand five hundred cars of live stock were shipped in 1869, and 8,030 cars in 1872.

The last 210 miles of track on the Kansas Pacific was laid in 1870. The first train ran into Denver, 638 miles from the Missouri River, on August 15 of that year. The branch from Denver to Cheyenne, 106 miles, had been completed six weeks previously. The first Pullman car to reach Denver was the "Comanche," which arrived on October 7, 1870.

ELEVEN-MILE RAILROAD IN OKLAHOMA.

Abandoned Line Taken Over and Operated by One Man Proves to Be a Fine Dividend Producer.

BY J. R. HENDERSON.

ELEVEN miles of track designated on railroad maps as the Webbers Falls and Western Railroad have been taken over by a progressive citizen of Muskogee County, Oklahoma, and an unprofitable stretch of right-of-way has been transformed into a money-maker. The man who took the railroad and the chance is N. J. Naples, a former justice of the peace, now an obscure but prosperous railroad magnate.

Prior to 1913 all freight had to be hauled from Warner, on the Midland Valley Railroad, to Webbers Falls, by wagon, and it was an expensive method for the merchants of Webbers Falls. In 1912, a company was formed for the purpose of building and operating a railroad between Warner, a town of three hundred, and Webbers Falls, which has a population of over a thousand.

Stock was issued to the amount of $150,000, a right of way secured, and work commenced. The road was finished the next year and traffic started. The rolling-stock included an engine, a passenger coach, and one combination passenger and baggage car. For a while business was good, but soon fell off in the passenger department, and as the mail was carried by stage, the operating expenses proved too heavy to allow a reasonable profit. In about two months it went "broke." The engine and coaches were sold, but the track remained intact.

Naples was perhaps the heaviest stockholder in the concern. After he had talked with the merchants of Webbers Falls and found that they would back him, he went to Chicago. He purchased an old inspection car and a small flat car, returned to Webbers Falls and began to operate the abandoned road. Since then any efforts to dislodge him have been unsuccessful. Popular sentiment at the Falls is with him to such an extent that he has been enabled to defy the former owners.

According to Naples's figures, the road

is clearing twenty-five dollars a day. He declares that, considering his investment —three hundred dollars for the cars— this is comparatively the greatest profit of any road in the country. The car is operated by a four-cylinder gasoline engine which he has installed. Common benches are used for seats, and there is room for seventeen persons. The coach is electrically lighted. If business justifies, Naples intends to increase its rolling-stock.

Naples now has a contract to carry the mails between Warner and Webbers Falls. This contract more than pays the operating expenses, and is a connection with the government. The road has a regular schedule, three trips a day. The entire business stops at Webbers Falls every night, makes the first trip to Warner early in the morning, leaving the Falls at 6.30 and returning at 9.30, then makes two more trips during the day.

The time, including stops, is thirty-three minutes each way. It stops at every wagon road to take on or discharge passengers or freight. The service to farmers is excellent.

The passenger-fare, one way, is fifty cents. This is more than the two-cent-mile rate, but Naples contends that his road, operating motor-cars strictly, does not come under the act. There is another restriction, which is, that he must receive $1.50 for the trip one way.

If there is but one passenger, he must pay the full amount, if only two passengers the fare is seventy-five cents each, if three or more, the regular fare is in effect. It is possible to charter a special train on the route by paying $1.50. This is at the rate of 13 7-11 cents a mile, and is the cheapest special train rate on any line.

If a person wants to make a trip at other than schedule time, he may telephone to "the superintendent in charge of traffic," Naples, and he will make the trip if the $1.50 is guaranteed. The telephone operator receives a commission from Naples and makes no charge for the call.

Posted inside the car is a large notice:

> This car is operated by no railroad company in the United States, nor is it operated under any lease or permission given by any company or persons or person.

The notice releases Naples from any liability in case of accident to passengers. People ride at their own risk.

The road does its greatest business in freight. The regular charge for freight is thirty-five cents a hundred. This is legalized by the Corporation Commission of Oklahoma. The freight traffic is considerable, for otherwise all freight would have to be hauled by wagon.

It is easy to understand why the merchants are backing Naples. He now owns a hack line, operating between Webbers Falls and Gore, Oklahoma, and a ferry-boat across the Arkansas River at Webbers Falls.

MILLIONS FOR ANNUAL SCRAP CROP.

THE scrap-heaps of the railroads grow larger and larger every year, owing to the steady expansion of business. They are composed of old locomotives, machinery, and material of every sort and description. Even at the small prices for which this metal waste is sold, it brings in millions of dollars every year.

Of all the vast amount of material that a railroad purchases every twelvemonth, ninety per cent eventually finds its way into the scrap-heap, says *Harper's Weekly*. In no other business are the odds and ends that are no longer serviceable collected with so much care. Everything, from the frames of tin lanterns to the ponderous driving-wheels of locomotives reaches the scrap-dock in the end.

But before anything is scrapped it has to be passed upon by about a dozen experts. They look it over and see if it could be used in any other way before it is sold to the junk man.

On one of the Eastern railway systems, a few years ago, a large quantity of steel freight-car bolsters were found to be unavailable for the type of car for which they were originally intended. One by one the mechanical experts shook their heads and voted that they be sent to the scrap-dock. But one of the examiners suggested drilling an extra hole in the condemned bolsters and using them on a different class of truck than that for which they were intended. This was done at little cost, and their journey to the junk pile was delayed.

When the car-scrap is picked up and loaded on the cars it is only roughly sorted. Its final sorting and classification occurs when it reaches the scrap-docks. The manual labor of unloading and handling this material used to be a heavy item of expense and very hard on the men. Now big electro-magnets attached to movable cranes save much time and money.

RAILWAYS ON THE FIRING LINE.

How Troop Trains Made Victories of War Possible by Rushing Vast Armies to the Front.

ROADS HAVE GREAT STRATEGIC VALUE.

Splendid Service of the B. and O. in the Civil War and Sherman's Successful Atlanta Campaign Taught the World That the Right-of-Way Offers Great Military Advantages Because of Its Proximity to Vital Spots in the Enemy's Country.

BY C. H. CLAUDY.

SOLDIERS speak of the art of war as the greatest of all arts, because it finds a use for all other arts, sciences, and industries. Certainly modern warfare not only finds a use, but absolutely depends on the railroad.

The Civil War was the first great conflict in which the railroad played a prominent part. Previously the railroad was so little developed that it was not considered a strategic factor in war.

Russia moved 30,000 soldiers from Poland to Austria in 1849, and Austria, taking her cue from this, used the railway in 1850 to concentrate her troops on the frontier in a threat against Prussia. Both France and Austria used the railways in 1859 for troop movements, but these wars were of such short duration that they gave no real indication of the importance of the iron road in warfare.

Troops were moved by rail in the Civil War from the very beginning. If one disregards Sumter, the first real battle of the Civil War was Bull Run, and the arrival of Johnston's troops on the field was the deciding factor. These troops arrived by rail at Manassas from the Shenandoah Valley.

So important was the railroad situation in the Civil War that, with a few exceptions, no great actions occurred at any distance from railroad lines. General Sherman says in his memoirs:

> The Atlanta campaign would simply have been impossible without the use of railroads from Louisville to Nashville, 185 miles, from Nashville to Chattanooga, 151 miles, and from Chattanooga to Atlanta, 137 miles. That single stem of railroad supplied an army of 100,000 men and 35,000 horses for the period of 196 days from May 1 to November 12, 1864. To have delivered that amount of forage and food by ordinary wagons would have required 36,800 wagons

and six mules each, allowing each wagon to have hauled two tons, twenty miles a day, a simple impossibility on such roads as existed in that region of the country. The Atlanta campaign was an impossibility without the railroad, and only then because we had the men and the means to maintain and defend them, in addition to what were necessary to overcome the enemy.

Yet the Atlanta campaign and General Sherman's wonderful movement by no means tell the story of the railroad in the Civil War. No comprehensive account of the Civil War could be written which would not be also a history of the railroads in the theater of conflict.

Of these roads, the Baltimore and Ohio stands forth conspicuous. It ran through more disputed territory, had more battles fought on or near its lines, and played a greater part in the transportation of troops and supplies than all the other railroads on the continent combined.

Disregarding skirmishes entirely, twenty-three battles were fought on or immediately adjacent to the B. and O. tracks in 1861, thirty-nine in 1862, forty-five in 1863, and sixty-nine in 1864. There was one other battle, that of Beverly, West Virginia, on January 11, 1865. Lee surrendered soon after at Appomattox.

The importance of the B. and O. was great because its lines ran through both the North and the South. Without the cooperation of the road it would not have been possible for the Union to maintain, feed, and supply the enormous armies in Maryland, Virginia, Kentucky, and Tennessee.

Road Injured by Enemy.

Washington, menaced four times during the war, was dependent on a single line of track for transportation of both troops and supplies. Luckily for the city, communication was never interrupted for long. John W. Garrett, president of the B. and O., was a personal friend of President Lincoln, which may or may not have had something to do with the readiness, the capacity, and the speed with which the road met the enormous demands of the government.

The railroad suffered severely during the war. Portions of its lines were more or less constantly under control of the Confederate army. Other portions were constantly being captured and recaptured, and large numbers of cars and engines were either being burned by one side or the other to prevent them being used by the enemy, or else they were being crippled for the same purpose.

It is recorded that from 1862 to 1864, 40 engines and 386 cars were destroyed, 23 bridges—embracing 127 spans—and 36 miles of track were torn up and carried away for use farther South, and 192 miles of railway had the water stations and telegraph stations totally destroyed..

For the damage of 1862 alone there were needed no less than 150,000 new cross-ties and 6,000 tons of rails to make what repairs were possible.

B. and O. Relieved Rosecrans.

Of the thousands of feats of transportation under difficulties, none is more worthy of repetition than the stupendous movement in relief of General Rosecrans. This took place half a century ago, and that if the subsequent transportation feats of foreign roads and foreign nations seem larger from the statistical standpoint, it is because the science of railroad transportation has kept pace with war.

Rosecrans was beaten at Chickamauga and was cooped up in Chattanooga. To remain there was useless, to retreat was to court certain disaster. Lincoln was almost in despair. Secretary of War Stanton consulted with President Garrett of the B. and O., and then made his amazing proposition.

"I will undertake," he said, "to move twenty thousand men from the

army on the Rapidan and put them on the Tennessee, near Chattanooga, in ten days."

General Halleck said it could not be done. Stanton insisted that it could be done. Finally he brought in President Garrett. In a paper written some time after Mr. Garrett gave this vivid account of what happened:

> I arrived at the cabinet meeting at the moment when they were at issue as to the possibility of making so large a transfer in so short a time.
>
> In response to their questions I replied that I could put 30,000 men in Louisville in ten days, provided I was clothed in absolute power over the whole route as well as all military authority, not even excepting General Halleck, then general in chief; that the lines of railroad and telegraph should be under my sole control and command, and should be protected as such; that no military officer should give any order not subject to my control; that I be empowered to seize and run cars, stop mail and passenger-trains, government freights, and all other trains, and that authority be given me to seize wagons, lumber, and impress men on the Ohio River for the purpose of building bridges.
>
> The Secretary of War, who was much pleased at the prospect of accomplishing this great feat of transportation contrary to the expressed opinion of General Halleck, replied that he would grant me everything and hold me responsible for success.
>
> General Hooker, who was to command the expedition, replied that while he had a great respect for me personally, he would not, as long as he held the rank of major-general, become the subordinate of any civilian, and tendered his resignation on the spot. I replied that it was only with such authority that I would be responsible for the success of the movement.

General Hooker did not resign, and Garrett received his authority and repaired to Camden station in Baltimore, where he remained on duty for the entire ten days, sleeping in his chair. He was accused of failure in the very moment of his success, and the telegram announcing the safe passage of the first trip trains across the newly built bridge over the Ohio cut short General Halleck's wire, which said:

> You have failed. You can't get trains across in time.

Professor Draper, in his "History of the Civil War," says of this wonderful feat of transportation:

> With so much celerity was it conducted that the Confederates knew nothing whatever of it until Hooker was in their front. The strength of the corps transported was 23,000, and with their baggage, artillery, trains, and animals, they were transferred from the Rapidan, in Virginia, a distance of 1,192 miles, in seven days, crossing the Ohio twice.

Great as was this movement, it is equaled, if not beaten, by the removal of the Twenty-third Army Corps, under command of General Schofield, in January, 1865, from the western army at Eastport, Mississippi, on the Tennessee, to Washington. This was done in the dead of winter and in the severest weather. The route lay over mountains blocked with snow and ice.

The average time was eleven days from the arrival of the advance guard to that of the rear guard. The Baltimore and Ohio Railroad did most of the transporting, without the loss of a man or an animal, or the damaging of any property. The distance was 1,400 miles, and the corps consisted of 18,000 men and 1,000 horses and artillery.

Lack of Road Beat Gordon.

Building railways for war use is more often a measure of peace than the reverse, but at least one railway built in time of war for war use has been a great factor in peace and commerce ever since. Something like half a century ago Cecil Rhodes saw with prophetic vision a Cape-to-Cairo railroad. The world laughed at him and told him that he dreamed; that, even if money and men and time were at his disposal, there was one "insurmountable obstacle." It would not be

possible, he was told, either to build a line or to maintain a line across the blistering, drifting sands of the Sudan.

Had there been such a line, Gordon might not have watched in vain for the British bayonets at Khartum. They might have arrived in time to save him from the wrath of the Mahdi. It was the lack of such a line that made possible the ravening piracy and unmentionable atrocities of the Mahdi and his fanatics which, with fire and blood, burned deep into the Sudan the record for the most merciless fighting the world has ever known.

"Destroy Him with a Railway."

"The Mahdi must be destroyed. He can't be destroyed without a railway. So we will build a railway," said Lord Cromer.

"There is no water," answered Kitchener.

"Carry it," was Lord Cromer's answer.

"If we succeed it will be sand buried in six months," protested Kitchener.

"No matter," was the even answer. "You have got to reach the Mahdi. The railway will be worth what it costs if we lose it after you have used it once. Build it—and build it fast."

So they built it, a mile, two miles, sometimes three miles a day. It was a poor apology for a railroad at its best, but it gave the soldiers a big lift to Omdurman and made possible the defeat of the dreaded Mahdi, assured peace to Upper Egypt, and the "insurmountable obstacle" to Cecil Rhodes's Cape-to-Cairo railway was swept away.

It was the Civil War which taught Europe what a railroad can do in war time. That the lesson was well learned was shown not only by England in Egypt, but as early as 1870 when Germany invaded France. Von Moltke, then chief of staff of the Prussian army, made a study of the use of the iron horse in the Civil War, and made use of his knowledge to place the Prussian army on the frontier with such rapidity that the French had great difficulty in meeting the attack.

Military Men Study Transportation.

The wonderful concentration movement of 1870 has been a model for every general since that war. Of this movement, Colonel G. J. Fiebiger, U. S. A., says:

> Between the 23d of July and the 9th of August, 456,000 officers and men, 135,000 horses, and 14,000 guns and other carriages were transported from the different provinces of the North German Confederation to and beyond the Rhine in such a thorough state of preparation that hostilities were begun by invading the enemy's territory even before the last contingent had arrived.
>
> Only six trunk lines were employed in this movement, which required 1,205 trains. Most of the lines were only single-track roads. The difficulties involved in perfecting the plan for this movement become even more evident when it is remembered that at the outbreak of the Franco-German War, the railways of North Germany numbered ninety-five different lines controlled by nineteen independent states and forty-five corporations.
>
> Since the Franco-Prussian War the military authorities of every European country have devoted much time to the study of railroad transportation in war. Military railroads have been constructed to supplement the civil lines where these do not suffice for the prompt movement of troops.
>
> The German problem is much simpler than it was in 1870. Sixteen through lines connect the German territory with the Rhine and cross that stream on iron bridges. Double-track railways follow both banks of the stream. Eight lines penetrate Lorraine and are united into five lines at the frontier. Seven lines lead from the Rhine to the Vosges Mountains in the province of Alsace. Practically all the lines are owned and operated by the State.
>
> In 1870, France found her lines defective from the fact that they all passed through Paris; now she has practically an independent through line from each army corps to the frontier.

So important have the railways become in the eyes of generals that it can be stated without fear of contradiction that there is no nation of Europe, either at war or neutral, which has not based much of its war plans on the possession of railways within its own borders, and the hope of controlling those in the countries with which it might be embroiled.

Railroaders a Part of Army.

It was only a year or so ago that England had a more than usually vicious "German war scare." While there is little doubt, in view of recent events, that the British government knew a great deal more about the imminence of an armed clash with Germany than the general British public, this war scare produced some unexpected results.

One was the plan by which every railroad official in Great Britain became immediately on the outbreak of hostilities an officer in his majesty's army. The British commander-in-chief instantly became general manager of all the railway lines in Great Britain.

Under the railway war plan, every railway manager becomes a lieutenant-colonel of engineers, and so on down, operating officials receiving commissions and the rank and file becoming subject to military law as completely as if they were enlisted men.

This arrangement not only mobilizes the railways in complete accord with the army, gives the commander-in-chief instant control over his transportation forces, but brings to the government the trained assistance of every railway man in the United Kingdom, assuring King George of the highest rather than the lowest efficiency of his railroads at a time when he may need them most.

Kitchener an S. and C. Director.

Every country in Europe has a detailed set of maps of the railway lines of every other country. England knows full well just where every inch of track is located on the continent, with Belgium no exception. Is it a coincidence that Lord Kitchener very recently became a director in the Southeastern and Chatham Railway Company? Lord Kitchener began his military life in the engineers, and is still one of the honorary colonels of that arm of the service.

After Egypt and the Sudan, no man appreciates better the strategic importance of a railway in time of war. That is probably why he became a director in that British railway which is, considered with relation to France, Germany, Belgium, and the continent generally, the most important in all England.

Until the present European conflict, the most spectacular use of a railway in war was in the Russian-Japanese conflict, in which the Transsiberian Railway played a part so important that without it no war could have been fought. At the beginning of hostilities it operated seven trains daily each way. Sidings were scarce and far apart. Ferrying across Lake Baikal was a constant source of delay.

During the first nine months of the war over 200 new sidings were put in and the lake was circumnavigated with rails. The capacity of the line was thus increased to eighteen trains each way daily, six trains being used for troops, seven for material and supplies, and the balance for civil purposes. Troop-trains carried 800 men each.

Saved Russia's Possessions.

Russia lost so heavily at sea that for a time it seemed she would be completely and entirely subjugated by the Japanese. The slender single-track road across her great empire, however, transported troops enough to make a stand in the Far East and undoubtedly saved for Russia her Far Eastern possessions east of Lake Baikal.

It is idle to speculate as to what

part the railways of Europe will play in the great conflict of 1914. Not for months, perhaps not for years, will the whole story be told. But it is noteworthy that, in spite of the neutrality of Belgium, Germany for years has been arranging her railroads apparently with an idea of crossing that state to the sea and to the French line.

Some great feats of railway construction must be credited to the German army railway department, and undoubtedly much of their confidence in moving to cross Belgium was based on their knowledge of the railway facilities which they had carefully prearranged.

As early as 1909 the Germans double-tracked the single rail from Aix to St. Vith. Sidings out of all proportion to the civil requirements were built. One of the earliest lessons taught in railway warfare was that a line is only as effective as its sidings and terminal facilities, not in proportion to its track.

Strengthened Belgian Resistance.

Early in 1914 the light railway connecting the border towns of Malmedy and Stavelot was opened for traffic. This little five and a half miles of track connected the Belgium and German railway systems at a point where Belgium has no defenses.

This railway is but one of many selected for mention because of its strategic importance. The war actually interrupted work on many other lines, most of which, however, are in usable condition.

The German war department has fourteen separate routes, many of them railway routes, by which forces can be thrown across Holland, Belgium, and the Grand Duchy. Perhaps the only thing left out of the German calculations in regard to rapid railway transportation of troops, and her ability to swoop down on the great bridges across the Meuse at Nijmegen, Mook, Gennap, Venlo, Roermond, Maeseyck, and Maestricht, and thus complete her converging movement to Antwerp and Brussels, was a knowledge of the way a man fights for his home.

The desperate resistance of Belgium must have been a terrible surprise to the Teutons. Had it not been for their preparation of railways in time of peace and their ability to bring troops and guns with unsuspected speed, that resistance might well have ended the European war before it was well begun.

War's Havoc on Right-of-Way.

All construction work which Europe has been building up is now in danger. With an army the questions involving a railroad have nothing to do with property, with money value, or with the future.

It is not, "How much will it cost?" but, "Can it be done?" It is not, "How much will the loss be?" but, "How long will it take?" It is never, "Think of the time required to make repairs," but, "If we blow this bridge up will we gain or lose?"

As these lines are being written railways are being torn up, bridges destroyed, property burned. It is the fortune of war. We have seen it largely in Mexico during the last few years, where the railways, built with difficulty and run by the government, have suffered severely. The Mexicans are expert at "unbuilding" railway property.

In early railroad days it was often sufficient to tear up a few rods of track and transport the rails to a distance or sink them in a stream. Now, however, such methods would merely cause delay until repairs could be effected.

Modern methods of railway destruction in war have been well illustrated recently in Mexico where the Constitutionalists have destroyed hundreds of miles of government railways in so effective a way that replacing them means rebuilding everything except the grade. For a while the rebels used wrecking cranes, lifting whole sections

of track to one side and twisting it out of shape. But the method proved too slow.

So resort was had to the engine itself. Trenches are dug between ties, and strong steel chains run under both rails and then hitched to the draw-bar. The engine is slowly backed, with astonishing results. When possible engines of the 220-ton consolidation type are chosen, with 22-30 cylinders, and the track does not resist long. The rails are drawn together and then lifted bodily, spikes are loosened, and finally the track rolls up.

Saturation of a pile of this pulled-up track with oil precedes burning, which leaves only a mass of twisted rails of no value whatever except as stock for rerolling. It was noted by an American railroad engineer who saw some of this destruction in process that the old-fashioned fish-plates did not resist the pull as did the firmer tie-plate.

With the fish-plates it often happened that a kilometer or more of track would be torn up without the chains meeting any resistance sufficient to break them.

Wooden bridges have always been easy of destruction, oil and the torch accomplishing the result in a short time. The modern steel bridge, however, is not to be attacked in so simple a manner.

English Lines as Protection.

The destruction of the bridge at Obeyos illustrates the method fairly well. Holes were drilled in the masonry piers near the water-line in the abutments near the bridge seats. These holes were filled with dynamite, and all the charges were exploded electrically. The result was not only the unseating of the bridge structure itself, but the total destruction of the masonry piers, thus rendering repairs—even of the most temporary character—impossible.

Quite apart from the practical side of the use of the steel lines and iron horses in war, when time is of so much more value than money, is that question of how largely the railway is going to affect sea power in the future. At first glance it does not seem as if a country's railways could have very much to do with its navy, yet Russia showed that, beaten at sea, a railroad could still keep her alive.

The Bagdad Railway and the Anglo-German quarrel over it have had not a little to do with the smoldering animosity between the two countries. Canada justly regards the Grand Trunk Pacific as a second line of defense for that country, so long as it is British. Its eastern terminus can be well guarded by British ships of war, and it is too far from the border to be affected by invasion without the investiture of the whole country. Sir Conan Doyle, the writer, said recently:

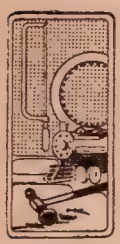
"The most unintelligent thing done by the present generation of Englishmen was the refusal to allow the construction of a tunnel under the Channel. In case of war the tunnel would be an effective assurance against starvation."

Again, the railway and not the navy is brought prominently forward, and this in a country which has always placed its dependence on its sea forces.

However that may be, it is certain that the world's railways—first used to any extent in war in our own civil conflict—have come to possess a greater and greater strategic importance.

The results of the present European conflict cannot be known until the smoke has cleared and the last cannon has cooled.

Just as in time of peace there are no men who forward civilization so rapidly and so effectively as the men who run the trains, so it may well be that after this one gigantic conflict is settled the resulting railway expansion, duplication of track, and increase of the peaceful army of trainmen may help to render another such war impossible.



What the INVENTORS Are Doing

BY LESTER L. SARGENT.

AN Ammunition-Hoisting Car, invented by two Pennsylvania inventors, is of interest in this war period. A receptacle encloses the ammunition, is elevated, tilted, and opened again, engaged by the upper part of its special track or guideway.

CHECKING or counting fares by photography is the novel idea of Burrell Cannon, Longview, Texas. He has patented an apparatus for automatically photographing persons moving along a confined way, such as the entrance to a railroad car. The camera is operated by a pneumatic mat in the entranceway, on which any one entering the car must step. A tube leads from the interior of the mat to a cylinder on the camera. A piston operated by the air in this cylinder operates and resets the camera.

A BRAKE for the vanishing hand-truck has been devised by Charles E. Badger and Fred G. Halladay, Appleton, Wisconsin. Hardwood brake-shoes are pivotally attached to the hand-truck in a position to engage with the wheels. A cross-rod connecting the depending ends of the brake-shoes provides a handy means for applying the brakes by foot-pressure.

A RAILWAY Velocipede has been invented by Frank Brady, Denver, Colorado, This velocipede is not a pleasure vehicle, but a sort of life-boat for a railroad train. In case of accident to trains carrying the railway velocipede it may be quickly arranged and put in action. It has a hand-lever like a velocipede and pedals like a bicycle, so that it may be operated by both hand and foot-power simultaneously, or may be arranged to be operated by either if desired.

A chain-drive is used, very much like that on an ordinary bicycle. The seat-post, which supports a bicycle saddle, is arranged inside the center of gravity, thus obviating to a great extent the danger of the machines jumping the track.

The machine may be converted easily into a motor-velocipede, though it may be driven so easily and rapidly by combined hand and foot-power that the inventor considers the use of a motor not necessary.

The framework of the machine presents the appearance of a right-angled triangle. It is mounted on two wheels on one rail and a single wheel on the opposite rail. The rider's position is on the side nearest the rail supporting the two wheels. The velocipede may be folded into compact form when not in use and to facilitate carrying it in railway cars ready for emergency.

LATCHING automatically the lavatory door in a railway car when the car is halted is the object of a new invention by Julian E. Minner, Jamestown, North Dakota. The device includes a connection with a wheel of the car which rotates a governor which in turn controls the operation of the latch. When the car comes to a halt the governor comes to rest and the door is latched. It may be opened by a person in the lavatory at any time, as he merely raises the latch out of its keeper.

COALING trains in motion is provided for by a device patented by Gust Hall, St. Frances, Minnesota. The invention also may be employed for delivering heavy articles in general to trains while they are in motion. The primary object, however, is coaling; and, especially, coaling freight trains, with a view to saving the time lost in starting a heavy freight-train after the coal is taken on. It is intended that trains should run

between ten and twenty miles an hour while coaling.

The coal-delivering carriage is on a short side-track and is provided with a dumping-bucket. An actuating arm on the approaching train engages with a device on a cable which starts the coal supply carriage in motion, and when the tender reaches a position for receiving, the coal is dumped into it.

The side-track diverges to separate the coal-delivering carriage from the tender at the proper time. The side-track has an upward incline so that the emptied carriage, by its own weight, will return to the point where it is to be filled. This returning movement sets the entire mechanism in position for the next train to operate.

FRED A. RUNDLE, Harvey, Illinois, has invented a Screw-Jack Locomotive-Hoist with which a locomotive may be lifted so that the wheels may be removed for repairs. The device works on the general principles of a screw-jack. Two lifting devices are provided, spaced for attachment to opposite ends of the locomotive. The devices may be adjusted toward or from each other for locomotives of different sizes. The lifting operation and the longitudinal movement of the hoist are governed by a single lever, so that the operator cannot accidentally move *both* the longitudinal moving mechanism and the lifting mechanism at the same time, but may operate either *one* of the moving mechanisms. A modified form of the invention with a supplemental central lifting means is employed with Mallet engines. The patent rights in the invention have been acquired by the Whiting Foundry Equipment Company, Harvey, Illinois.

A NEW Dump Ash-Pan for Locomotives is the joint invention of Thomas F. Cain, Montgomery City, and Walter A. Skinner, Moberly, Missouri. The dump-pans are semi-cylindrical and swingingly mounted. Lips formed on edges of the pans limit the swinging movement and prevent overturning. The space between the roadbed and the pans is the same in dumping as in normal position, so that there is no danger of accident to the pans while being dumped.

VICTOR J. SHEPARD, Lima, Ohio, is the inventor of a Radial Trailer-Truck, patented to the Lima Locomotive Corporation of the same city. This truck supports auxiliary frame-bars and is connected pivotally to the main frame of a locomotive. The invention is intended to provide for the movement of the truck in swinging around curves by permitting of the movement of the bearings to different positions under the frame. Spring-bearing blocks are provided which allow of vertical movement in sockets held rigidly by the side-frames. The foot of each bearing-block rests on the top of a journal-bearing of the truck-axle, so that the bearing may slide beneath the foot in moving to various positions. A horizontal load-plate on the top of each bearing is an element of the combination.

AN Apparatus for Freight Transference has been invented by George E. Titcomb, New Rochelle, New York. It is intended for use at shipping terminals for transfer of freight to and from warehouses. It has an operating floor entirely separated from the storage floor or floors. A series of hatchways is arranged on the operating floor leading to the storage floors. Power-driven trucks travel freely on the operating floor and are adapted to move loads through the hatchways from and onto any part of the storage floors, which are provided with railroad tracks. A traveling tower is a further feature of the invention and used in transferring freight to the hatchway of a ship at a pier. The provision of a separate operating floor adapted for the free movement of traveling trucks in every direction gives the system great flexibility.

A RAILWAY Motor-Coach devised by an English inventor is of interest by reason of its unique seating arrangement. The floor of the vehicle is highest at the center, and both floor and roof slant downward from center to ends, thus affording passengers near the center of the car an unobstructed view over the heads of those at the ends of the cars. The driver is seated aloft at the center, where he has inspection-windows projecting above the main roof of the vehicle. The engines or motors are also located at the center of the vehicle, which is self-propelled.

A SUSPENDED Railway has recently been invented by Berthold Lindemann, Los Angeles, California. The cars are suspended from a monorail track. The principal feature of improvement claimed is the expedient of distributing the load of each car evenly over the track, so as to form in effect an evenly loaded beam. Ordinarily, the cars of sus-

pended systems are carried on one or two hangers, and the weight of the cars is concentrated at one or more points on the beam-rail.

The cars in this invention have multiple-wheeled trucks from which they are suspended, and the wheels of these trucks bear on the rail at points separated by approximately equal distances along the rail. The weight of the car is thus uniformly distributed longitudinally over the rail from which it is suspended. In consequence the deflection of the rails due to the weight of a passing train is greatly lessened and the weight of the rails required may be decreased.

THE production of an artificial draft is effected by an Air-Feeding and Air-Operated Grate invented by Albert E. Shultz, Pinners, Virginia. This grate can be installed in many fire-boxes at present used, and at the same time make use of an improved form of grate rocking-rod for supplying the air to hollow grate-bars. The grate-bars are both hollow and perforated. A hollow leg depends from each bar and is connected to a hollow rocking-rod, through which air is supplied under pressure. The bars are mounted so as to be rotated on movement of the rocking-rod. The forced draft and the movement of the grate-bars are independent of each other. It is claimed for this invention that the proper air-pressure may be selected for the forced draft and a saving of fuel effected.

A BANANA Rack for Cars has been devised by Burnley S. Duffy, Elkton, Kentucky. It has telescoping partitions and can be folded up when not in use. It has a screenlike arrangement of slats which allows for proper ventilation.

THE problem of obtaining fresh air in railroad cars unaccompanied by cinders is the hope of most travelers. An effort in this direction has been projected by Egbert H. Gold, Chicago, Illinois. He has devised a Ventilator for Railway Cars. It consists of a hood of approximate V-shape having an imperforate top and a longitudinally perforated or slatted bottom. The downwardly projecting slats incline inward so as to form a scheen for cinders. These deflecting slats in front of the openings in the ventilator also prevent a direct back draft of cold air through the ventilator, without, however, closing the opening. It also prevents the wind from blowing into the car through the ventilator when the car is at a standstill. This ventilating hood is fastened outside over the usual ventilating windows at the top of the car, over the deck. The hood tapers outwardly to diminish the suction resulting from the movement of the car, but its shape in this particular is of secondary importance.

CLARENCE E. SMITH, St. Louis, Missouri, has invented an Equalizing Car-Truck. It has equalizing bars at each side of the truck frame which are supported at their ends on the truck frame, or the journal-box, on springs. The equalizing bars, through the medium of central hangers, are connected beneath the truck frame by a spring plank on which are mounted elliptical springs, which, in turn, support the car body. It is said that the invention will prevent "the jarring often noticed when brakes are applied"—an important advantage. Strains on the truck-frame are practically absorbed by the springs and equalizing-bars before they reach the car body, and vice versa. The patent rights are owned by the Double Body Bolster Company, of St. Louis.

AN Intercommunicating Telegraph or Telephone Device, invented by Auger C. Carlson, Butler, Pennsylvania, enables an operator to interconnect telegraph and telephone lines.

"The device," says the inventor, "can be used in combination with a telegraph and local telephone system, particularly railroad telegraph and telephone systems, in which it is desired at all times to have ready access to a local telephone. The operation of one of the plugs secures the automatic release of other circuits, and when the device is used in connection with telegraph systems, batteries for the resonators need not be provided and an independent relay is dispensed with, the circuit being accomplished by cutting directly into the main line relay."

The device consists of a rectangular box with pairs of jacks secured to one end wall and slidable fork-shaped plugs normally held out of engagement with the adjacent pair of jacks by springs. A projecting handle attached to the forked plugs is used to operate the device.

A TRANSPORTATION-TICKET recently patented by Frank Batt, North Tonawanda, New York, comprises a plurality of ticket sections, folded on a roll-fold on lines between the sections. Each section has a single designated cancellation punch-point. The

ticket bears data requiring it to be punched through all sections simultaneously. The place of punching is determined by the designated punch point on the section, only to be detached. Improper punching of this ticket, it is claimed, can be readily detected. All sections must be punched before the ticket is unfolded and presented to the conductor.

A FEED-WATER Preheater for Locomotive Boilers, invented by George H. Wilson, Spokane, utilizes the heat of the hot gas entering the smoke-box, as well as that of the exhaust steam. A baffle-plate deflects the hot gases between the boiler and the plate.

CHARLES E. SCRIBNER, Jericho, Vermont, and Frank R. McBerty, New Rochelle, New York, both as joint inventors and independently, have been granted a number of patents recently on intricate telegraph receiving and telegraph printing apparatus. The patents have been assigned to the Western Electric Company, New York. The inventors' aim has been to provide printing-telegraph receivers and other apparatus that can be operated accurately at high speed.

IN the campaign for "Safety First," two elements must be considered: first, human carelessness; second—and more important—mechanical carelessness.

Signs, instructions, talks, and all manner of publicity accomplish the desired results where human carelessness is involved. Mechanical carelessness cannot be corrected by the same publicity. It must depend on mechanical devices.

The greatest factor in the latter division is the adequate locking of nuts on bolts, whether on track, cars, or engines. When vibration causes a nut to drop off, and loss of life results, the accident is listed as "unavoidable." It is only mechanical carelessness, for such accidents can be avoided by the use of an adequate lock-nut. Some devices cannot accomplish this, not because they lack holding power, but because carelessness is displayed in their application. Repairmen and trackmen, too, easily forget to apply them properly.

The Absolute Lock-Nut is a new device that has been tested out quietly by the large railroads for some time, has accomplished the requirements of engineers interested in a dependable lock-nut. It is claimed that it produces greater safety because it is self-contained; that is, the lock is within the nut. The element of human carelessness is thereby eliminated. It locks automatically and continuously in whatever position it may be placed and the element of mechanical carelessness is also eliminated.

This device can be handed the trackman or repairer. When he applies the nut he also applies the lock-nut. It immediately and automatically locks in any position.

FRANK C. ANDERSON, Cincinnati, Ohio, is the inventor of an Interlocking Switch-Stand Mechanism designed to render it impossible to lock a switch until the point-rail has been brought against the stock-rail, so that a careless operator cannot lock the switch in an unsafe position by an exertion of force. It is intended to obviate the danger arising from a small obstruction getting between the point-rail and the stock-rail, which if left might allow a sharp flange to enter and result in derailment.

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EDITOR, RAILROAD MAN'S MAGAZINE, 175 Fifth Avenue, New York.

Awaking a Deadhead.

BY "MISS NITE OPERATOR."

The Thrilling Incidents That Led Up to Her Determination to Change Her "Sig."

THIRD-TRICK DESPATCHER MORRISY was not in love with me. He had made this fact sufficiently manifest during the three weeks which had elapsed since my instalment as night-operator at Oakton. He had done what he could to make me regret my rashness in inducing the chief despatcher to transfer me to the Norwood district.

He had been so successful that I had already committed the indecorum of shaking my fist at the sounder in lieu of his face some fifty-odd times—he being some forty miles distant; while the mere thought of the despatchers on the district, who had been uniformly kind to me, almost dissolved me in tears.

But my resolution to remain on the Norwood district was unaltered.

Even my first sight of the depot at Oakton, situated a mile from the town, near the banks of a small stream—a location sufficiently appalling to the heart of any night-operator, especially to those of the female persuasion—had not shaken my determination, though my heart sank a little.

Second-trick Despatcher Watts was an old fellow who was good-natured while things were going well and trains running in good shape; but he was the reverse when they were otherwise.

In the main, however, he appeared amiable in contrast with Despatcher Morrisy. I knew him well, having met him at Currie, from which point he had subsequently transferred to Norwood.

I was not personally acquainted with Mr. Morrisy, nor did I desire that honor. My wire acquaintance with him was quite sufficient.

Some of the trainmen volunteered the information that he was a good fellow—an opinion which I ironically indorsed. But, although I disliked him, I had not been many nights at Oakton before I knew that he was the most efficient train-handler on that division.

The train-sheet was to him a mere chessboard; he moved his men with confidence and played on his nightly game with unerring skill and a swiftness I have never seen equaled.

He could raise heavy blockades in the shortest time on record. When trains were congested around the yard at Woodford Junction, and Despatcher Watts frantic in his efforts to get them on without delays, I learned to watch for the first stroke of midnight and to listen for the cool "O. K., R. D. M.," which announced that Despatcher R. D. Morrisy had begun his watch. With a feeling of relief I realized that the mental strain of my old friend Watts was over for the night.

Morrisy found plenty of exercise for his skill. The winter season was coming on and regular third-class freights were running in four to eight sections, while quick-despatch, Nos.

51, 52, and 53, averaged five and six sections each per night, besides the usual complement of passenger-trains, specials, and extras.

But, despite the heaviness of the work, Morrisy found time to bully nearly every man along the line.

As Oakton was situated on a two-mile stretch of level track, and was a favorable point for the stoppage of freights, it was a heavy train-order station, and I came in for my share of the bullying along with the rest. In fact, it soon dawned on me that I received more than my just due. Whether things were wrong or otherwise, the result was the same.

When second No. 81 pulled out of track No. 2, her crew forgetting to close the switch, which was later unnoticed by No. 452, and she ditched her caboose and tore up the switch-frog, Morrisy insisted that I must share the blame.

"We need wide-awake operators," he said severely, "who can use judgment, not deadheads!

"Why didn't you notice the target was set at red and go out and close that switch?"

He threatened to "write me up" to the chief for not answering my call on the telegraph-sounder, though I held the record for promptness on the Currie district. Then for several nights he made me go up to the north end of the mile passing-track after trains which had been cleared. In a word, I discovered that Despatcher Morrisy was opposed to the employ of women in the service and was trying to drive me back to the Currie district.

One evening, nearly a month after I had taken charge of the night work at Oakton, I entered the depot feeling somewhat depressed. For several nights preceding business had suddenly slackened and regular trains had moved pretty well on their schedules, rendering my work unusually light.

Time dragged when there was nothing to do, and I stopped at a book-store, bought a novel, and tucked it in my lunch-basket. It was not cold, but there had been rain and the air was chilly. I shivered as I stepped on the platform and looked around at the gloomy prospect; the station was fully a half mile from town. No buildings were near. It seemed isolated.

Some hundred yards south of it, spanned by a long trestle, Current River dragged its shining length. It was a narrow stream and was said to be very deep.

A strange loneliness that was almost fear crept into my soul as I turned away and entered the office. I was met at the door by Mr. Clapp, the agent.

Mr. Clapp was a stout, good-humored fellow; we got on together well, and I had grown to like him.

"Bad time for the owls, Miss Kitty," said he. "We've had a squally day, and the wires are all mixed up. Everything's blocked up in great shape at Woodford Junction, and Watts is half wild."

"Any one hurt at Beauregard?" I asked, setting my lunch on the desk and divesting myself of my hat and mackintosh.

"Oh, no! No. 89 side-tracked there for the No. 82's, and got some cars off. The main line is all right, but the passing-track is tied up for the night. I shouldn't wonder if you had something to do when Morrisy comes on and begins to raise that blockade at Woodford."

"Well, I dread it," I replied, glancing over the train-register sheet. "Not the work; but Mr. Morrisy, he's bad enough when everything's going well."

"Oh, R. D. M.'s all right when you get to know him!" Mr. Clapp answered. "We used to work together on the L. and N. He's crusty, and I don't think he likes ladies on the force. But he don't have any pets."

"If he has I'm not one of 'em — that's certain," I responded, signing the transfer, which read: "Nothing on hand."

"But once a friend, he'd stand by you," pursued Mr. Clapp, buttoning his rain-coat. "He lost his job on the L. and N. through trying to shield one of his operators."

"He's trying to make up for it over here," I retorted. "He is not likely to lose his job shielding any of us. He's shaken my faith in despatchers. I used to think them pretty nice."

Mr. Clapp laughed as he pulled out a drawer of his desk, exposing a shining revolver. "In case," said he meaningly.

I tapped the pocket of my mackintosh. "I've a gun here," I replied.

"Good for you!" heartily exclaimed my friend, turning to go.

He paused on the threshold and looked back. "I lit the red lanterns, and if you chance to need 'em they're just within the freight-room.

"And say, Miss Kitty, keep a sharp lookout after the switch-lights. If any of 'em go out be sure to light 'em—especially those at the end of the mile track."

"Yes, I will," I replied, laughing.

Mr. Clapp walked swiftly down the platform and passed out of sight.

I bolted the door, seated myself at the operator's desk in the large bay window, and turned my attention to the wires.

Mr. Clapp was right; they were "mixed." No. 71, the commercial wire, was standing open. I tried the ground — it had no circuit. No. 18, the "through" to New Orleans, was crossed with some foreign wire, and even the despatcher's, No. 7, was swinging badly.

Despatcher Watts, battling manfully against difficulties, was keeping the operators on the line off No. 7 wire with the figure "9"—the signal that precedes train-orders — and was frantically endeavoring to get trains over the road.

But there were intervals when the wires "went down" altogether and absolute silence reigned. During those intervals I felt lonely and nervous to an unwonted degree. I cared little for the other company when the counters were clicking. I placed some train-order pads handy in case of need and, with my revolver on the train-register sheet before me, settled myself to read.

At ten-thirty Lineman Edwards, who had been out on the road for hours, found part of the trouble between Cleves and Woodford Junction and straightened No. 7 wire, though he failed to clear the other wires. Immediately after the despatcher called me to report whether the third No. 84 had passed.

They were coming. I leaned my face against the window-pane and watched them rumble by. The conductor was standing on the rear end of the caboose of third No. 84. He shook his lantern at me. By its light I saw something white flutter from his hand. It was his station report. I reached for my revolver. I never stirred outside without it in my hand. A broad band of light fell from the window across the platform, and I did not think it necessary to take a lantern.

I unbolted the door and stepped out to get the report.

But I was not successful. I stepped back quickly, slammed the door, and turned the key.

I had found myself face to face with a man, standing just below the pale of light.

Though not really frightened, I felt startled. The isolation of night work had taught me watchfulness, but I had heard no footsteps on the platform.

A minute later I smiled at myself for allowing such a trivial incident to shake me. Still, I know the value of caution in that lonely situation. I examined my revolver and saw that each chamber was loaded before resuming my place at the desk. When I did so I glanced outside. It was dark without, but the light falling over the platform rendered visible objects not illuminated.

The man was gone. This fact did not render me more comfortable.

I was soon absorbed in my book again. An hour later when, after a long silence, the sounder on No. 7 suddenly lifted up its voice in my office call, I positively started.

"ON—ON—WJ." It was Woodford Junction calling Oakton.

"I—ON," I responded.

"Adj fr WO qk" (Adjust for WO quick!), said he.

"WO" was the despatcher's office at Norwood.

I glanced at the clock. It was half past twelve. Morrisy was on duty. I adjusted quickly, although with difficulty, because of the heavy current.

The first thing I heard plainly was Morrisy's signature, and I promptly broke in.

"Get out!" he snapped angrily, and then he continued: "To BW g a" (Go ahead).

"BW" was Bowes, the division terminal. It seemed I had interrupted a message for the operator at "BW," "went ahead," and I listened, my hand on the key.

"Flues leaking and may delay us. Delayed ten minutes. Bowes for connection, and picking up Mr. Spencer's private car, No. 10, for Currie. (Sig.) Frazier, No. 4."

I sat up suddenly. I knew no Conductor Frazier on that district.

Surely it was not—but, after all, what was more natural? Conductors were often transferred. I felt my cheeks grow hot. The sounder broke in on my reflections.

"ON—ON—WO—" Morrisy impatiently called me.

"I—I—ON," I answered.

The storm had been gathering some time. I knew it would break soon.

"I want to know why I can't raise that office to-night."

Thus Morrisy, deliberately laying aside abbreviation — something he never did in conversation, save when extremely irritated—addressed me.

"I—" I began, but he cut me short.

"Yes, W. Why dnt u ans?" (Why don't you answer?)

"But the—" It was no use. He broke me again.

"I've bn afr (been after) u 40 mins!" snapped he. "Ts no way to do biz, and I'm tired of it. Nw rpt (report) ure trains, and c if u cant ans up betr, or ull get a letter wi a man in it!"

I obeyed with a mad hand. He was raising the blockade at Woodford for fourth No. 58. One had rolled by and the sixth section was in sight.

It was long past lunch-time, and when the sixth No. 81 passed I brought my basket to the desk, feeling unusually hungry.

As I sat down a scratching noise at the window caused me to look up. A man's face was flattened against the pane. It was the face of the man at the door.

The basket fell from my hand. I made a motion toward my revolver and leaned forward.

"What do you want?" I called sharply.

"When is No. 10 due here?"

"At two-thirty," I replied.

"Two-thirty? Nearly an hour yet."

He turned away. A voice in the darkness muttered an indistinct reply.

He was not alone!

I returned to my lunch, but my appetite was gone. I tried to keep a sharp lookout, but the wind had risen and the panes were blurred by a dashing spray of rain. The two men retreated to a sheltered spot on the platform. They evidently had no intention of leaving. I could not see them, but I stole in to the freight-room and located them by their voices.

I tried to resume reading, but could not fix my attention. The unknown men on the platform, the lonely situation, the unusual silence of the wires, all conspired to make me nervous.

I sat still, straining to catch the slightest sound, yet inwardly rebuking myself. A rustling under the desk caused me to start and seize my revolver.

I investigated and discovered a rat. I laughed outright as I replaced my weapon and turned to the train-wire. I resolved to shake off the fears that beset me.

Nos. 18 and 71 wires had no circuit, but the sounder on No. 7. was clicking busily.

Woodford Junction was repeating an order from a conductor.

I took up a pen, drew a pad toward me, and copied it idly. It ran:

> ORD No. 42 to 1st 51, WJ—OK—VO. No. four (4) eng. 1106 and first (1st) fifty-one (51) eng. 618 will meet at Oakton. (Sig) Barrett, 1st. 51.

"OK—Complete 2.25 A.M.—R. D. M.—WO," responded Morrisy.

"He wants to know wr (where) No. 4 gets it" (The order for the meeting-point of the two trains), said the operator.

"At RD if I can ever raise t dam ham."

"Tell him to kick out and not delay t game!" replied Morrisy.

"RD—RD—WO—9!" Morrisy called.

"RD—RD—RD—9—RD—RD—99999999—WO—" he continued.

But RD (Beauregard) did not answer.

No. 10 was already overdue there. Clearly their engine was delaying; they were not making time. It was unusual to make a meeting-point between a freight and a fast mail, but Mr. Morrisy was a bold despatcher. He took chances frequently, and rarely miscalculated.

His motive was manifest. He could get first No. 51 no farther than Oakton without the possibility of delaying No. 10. He could calculate with no certainty on No. 10's time, as she had lost steadily since leaving Bowes, and, as the shortest method, he had made a meeting-point between them at Oakton, intending to annul the order to No. 10 at Beauregard, provided she did not reach that point before I reported first No. 51 in the clear at Oakton.

This she was not in the least likely to do unless No. 51 was accidentally delayed.

Failing to raise Beauregard, Morrisy put out the order at Woodford Junction to avoid delaying No. 51, depending on getting it to Beauregard later.

But he had reckoned without his operator. The night man at Beauregard was new to the service. The night was rainy and he had forgotten the importance of keeping the wires adjusted. Morrisy continued calling for thirty minutes or more, interspersing his calls with characteristic epithets:

"RD—RD—dam u! RD—RD—9—O je! RD—WO—WO—999—ON—WO."

"I—ON," I responded.

"Watch for first. No. 51 cmg (coming) in a let me no. RD—RD—TO—ON—WO."

"I," said I.

"First No. 51 in site?"

"Nt et" (Not yet).

"Ty shld B cmg. Copy 3." He gave me the order for No. 4. "Let me no wn No. 51 in clear. I want bust tt (that) to No. 4," said he when I had repeated it.

He resumed calling RD snappishly.

After a short interval Beauregard broke in with:

"I—RD—No. 4 by 3.10—RD."

"Whr U bn?" demanded the irate despatcher.

"Here, but wire had gone dwn," replied RD.

"Yes, a ure gng dwn next! TO ON—have ure red lamp redy a flag No. 10 sure if No. 51 dnt get in B4 No. 10 in site."

"Aint in site?" I replied in the negative.

I had no occasion to use either of the signal lanterns, and found them setting where Mr. Clapp left them, in the freight-room by the coal-bin. They burned clearly, their combined

light struggling in to effectually dispel the gloom in the long, drafty room.

I shivered when my eyes fell on some coffins among the freight piled in a corner. Picking up the lantern, I turned quite hastily.

Just as I did so I heard footsteps. I paused. I had forgotten the men on the outside. I now heard them seat themselves on the floor against the large freight door, jarring it slightly. Their voices I could hear plainly. What one of them was saying held me as if I was glued to the spot.

"And there's nothing north ahead of No. 10. No. 51 will be the first thing south, and it's tied up somewhere for No. 10. No. 10's engine is leaking — that's what's delaying her. I heard that much before we went to work."

So one of them was an operator. He had been listening at the window.

With what object? Before they went to work—at what?

A chill ran down my spine. I put the lanterns down softly and crept closer to the freight door.

"Are you sure old Spencer's along?" asked a lower voice.

"Haven't I told you I heard a message that his car would be on No. 10's train?" returned the first.

"Didn't both of us hear him tell the roadmaster he's to start for Currie to-night?"

"He'll never get there. That bridge wouldn't hold up a rat. Curse him! He'll never get another chance to kick a man out like he was a dog!"

"We've done the job this time, and it was dead easy with that girl here," was the reply. "I hate to ditch a whole train to get one man, but we'd never catch him any other way. That trestle was unsafe, anyhow. It might have happened any time."

"That's no lie! The wood was rotten in spots," returned the other. "I don't see how it holds together with them timbers sawed through."

"It's likely to go in the river any minute. I never—"

But I waited to hear no more. They were speaking of the trestle over Current River, I knew. I had listened thus far, paralyzed with a horror which beaded my face and hands with cold sweat.

Then one thought leaped from the black chaos like lightning. I alone stood between No. 10 and destruction!

I shook off the numbed spell and stole swiftly back to the office. I went to the window. A glance told me that No. 51 was not in sight. I dared not wait, and turned to the clock. It was three-fifteen—scarcely more than four minutes had passed since I left the room.

Beauregard had reported No. 10 by at three-ten. No. 10's schedule between Beauregard and Oakton covered twenty minutes. There was no time to think. I had just sixteen minutes in which to act.

I extinguished the red lantern with a downward jerk.

Morrisy was calling "ON!" frantically, signing the usually all-compelling "9," but I paid no heed. I took a small rubber match-case from my mackintosh and hid it in my bosom.

Then, the extinguished lantern on my arm and Mr. Clapp's revolver in my hand, leaving my own gun lying on the desk as a blind, I tiptoed to the back window, raised it softly, climbed out, drew down the shade, and in a moment was outside.

The wind was still blowing, but the rain had ceased. I scurried away to the river, making a short cut for fear of detection. The clouds had lifted, and after the first minute I could see objects plainly. I ran my best; I was putting my speed against that of the mighty locomotive, No. 1106, which was pulling No. 10, and I knew that in her failure to make time lay my only hope.

On the next issue of that unequal race hung the life of every human being on the train. But of the many on No. 10 that night one life only was in my mind.

As I neared the river I suddenly checked my speed, wondering how I was to get across.

One of the wreckers had said that the trestle would not hold a rat. Even if it were safe, I should not have dared to cross. They were doubtless on the switch and might see me.

I knew there were no boats nearer than the small landing, a quarter of a mile up the river.

But I stopped scarcely a second. In less than a minute I was running down the bank, my feet sinking in the mud.

Once upon the very brink of the turbid water, I hesitated again and listened. I could hear nothing of No. 51.

My mind was made up. Many months of night duty at lonely way-stations had inured me to face situations before which women ordinarily shrink. I let the lantern fall from my arm to my hand, and a new difficulty struck me. Would a bath in the river unfit it for signaling?

There was no remedy; it must be risked. I tore a piece from my underskirt, tied the lantern around my neck, and plunged into the river.

Fortunately, I was a good swimmer, yet I was taking a desperate risk—not for myself, for I had flung all personal fear to the winds; but I thought of the issue of the almost hopeless venture as it concerned that other life rushing toward destruction.

The water seemed liquid ice and the current was strong. The waves had risen with the strong wind and billowed about me in little foamy hillocks. My dress clung in tight folds and impeded the freedom of my legs.

But, although I struggled desperately against these difficulties, despair hung heavily on my heart, and I realized that if I succeeded in reaching the opposite shore alive in all probability it would be too late.

The very agony of haste under which I was laboring nearly defeated my object. I was floundering almost helpless in mid-stream—the water in my eyes and ears — when a long, hoarse, plaintive note sounded.

No. 1106 was whistling for Devil's Gap, a "blind" siding between Oakton and Beauregard.

It struck my ears like an unconscious cry for help and sent the blood tingling to my hands and feet, numbed by the chill water. If I failed within ten minutes No. 10 would be at the bottom of the river, her passengers and crew—

My strokes grew less furious and more steady. My breath grew labored and I was forced to part my lips. The reaction after the wild run had set in.

But I struggled on. I would save him or my own life would go out in the attempt. For what would life mean to me if I failed?

Within a few moments my feet struck the river-bed. Almost directly I was splashing through water barely waist-deep.

With teeth chattering, I stood on shore. There was not a moment to lose. Despite my utmost efforts, the current had carried me some distance down-stream. I climbed the soft embankment, dashed through a long wilderness, and finally reached a barbed-wire fence which guarded the right-of-way.

I parted the strands of wire as best I could and crept through—the short spikes tearing my skirts.

I scrambled up the steep grade to the right-of-way. I had barely done so when there came a loud, cracking, grinding, thundering noise, followed by a jar which seemed to shake the earth. All the water in the river seemed to leave its bed and rise in a column and then rush back with a sudden plunge.

The trestle had collapsed!

I turned and fled down the bank. The wind was gaining strength. The darkness grew more intense.

There was a flash of lightning. The trees skirting the right-of-way sprang into startling relief and were immediately swallowed up in gloom.

Once I fancied I heard footsteps crunching the road-bed and my heart beat rapidly, but it was only the scattering rain-drops upon the gravel.

I had not gone many yards when a bright, round disk of light flashed suddenly into view down the track. It was the headlight of No. 10's engine not more than a mile away.

I redoubled my efforts, tearing the lantern from my fastening as I ran. A moment later No. 1106 lifted its deep voice in melancholy cadence at Scott's Crossing.

The headlight grew larger; the rails stretched away and came together in a long, glistening point. I shook the lantern violently to clear it of water, and struggled with the bottom. The spring was stiff and resisted my fingers for a moment, and then gave way.

Fortunately, the match-case was waterproof and the matches were unharmed. One, two, three flared mere blue sparks in the protecting hollow of my hand, sputtered, and died out, refusing to light the wet, greasy wick.

The fourth leaped to the wick. In a trice the blaze was ensconced in the globe, the bottom fitted on, and the lurid danger-signal swinging across the track as I ran toward the rushing train.

No. 1106 was vainly trying to save her reputation by making up some of her lost time. The flashing headlight grew larger rapidly; the steady, pulsing roar deepened in volume. I stopped short in the middle of the track and swung my lantern to and fro.

Engineer Dodds had not seen the signal — that was plain. I raised it above my head to attract his attention.

As I did so a pistol cracked in the distance. The wreckers had seen my red warning.

No. 10 was barely more than a hundred yards distant. I raised the lantern again and shook it frantically. Then, as the train was almost upon me, there came two short notes from No. 1106, and I flung myself from the track—not a moment too soon. With a hoarse scream for brakes the train shot by.

I had a reeling vision of the dimly lighted sleepers as I fell almost headlong into the muddy ditch skirting the embankment of the road. My lantern was put out by the fall. I sat up in the mud, dazed. Then I climbed up onto the track and started after No. 10's lessening markers.

Would they go into the river, after all?

Suddenly the markers became stationary. There was a pause, then a loud, angry snort from the engine, followed by a quick succession of shorter but lighter blasts of the whistle.

The train was backing up. I struggled to my feet. I had been half lying across the end of a cross-tie with my arms upon the rail.

The rear car came to a standstill at a short distance. As I dragged myself toward it a lantern shone out suddenly from the steps of a middle coach, and it seemed to turn a somersault as its owner leaped down and hurried to the engine. Presently another lantern flashed from that direction. Engineer Dodds was hurrying to the rear.

A voice rang out, loud and clear:

"What's the matter down there, Dodds?"

"The trestle's down!" shouted Dodds.

"What?"

"Trestle's down! The pilot wasn't thirty feet from the bank when I got her stopped. If we hadn't been flagged we'd all been in the bottom of the river now!"

There was not a braver runner on the road than Al Dodds, but his voice was unsteady with excitement.

Lights suddenly twinkled along the whole length of the train. Several windows were raised and frowzy heads looked out. The lights from the baggage-coach fell on the grimy Dodds and the trim, uniformed figure of the conductor.

The baggageman squatted in the

door and eagerly listened to the excited talk.

"I tell you, boys, we'll never be any nearer passing in our checks than we've been to-night!" Dodds was saying. "Who could have been up here at this time of night?"

"Must have been the night-operator," said Conductor Frazier.

"No, it wasn't," said the baggageman. "For I heard old Watts saying that the night-operator here is a woman."

"Well, whoever it was, we must 'a' struck him," said Dodds. "I didn't see the light until we were almost on it, and went over in the ditch as we passed."

"Good Lord, Al! We'd better go back and look for him instead of standing here!" exclaimed Frazier. "The fellow may be killed!"

"No, he's not! It's not a fellow—it's I, Frank!" I called out.

I was only a few feet distant now. "And I'm not even hurt," I replied.

"What's the matter now?" demanded an authoritative voice, and a stocky, red-faced man rushed past me and stepped within a ray of light.

I recognized Division Superintendent Spencer, whom I had seen only once.

"What does this—"

He broke off suddenly when he saw me and stared as if petrified.

"The trestle is down! Two men sawed the timbers! I heard them talking about it on the platform just in time to save the train!" I delivered this explanation as well as my chattering teeth would permit.

In the consternation and horror vividly painted on the men's faces I had a sudden revelation of my personal appearance. My dress, torn by the wire fence, clung about me in tight folds. I felt my cheeks tingle, though I shivered with cold.

Mr. Spencer caught up Frazier's lantern and held it up so I was fully revealed.

"What—who is this?" he said.

"Why, if it isn't—" cried Dodds, lifting my arm.

"Madam, did you flag this train?" inquired the superintendent.

"I did," I replied.

"But how did you cross the river—in a boat? You—surely didn't swim that river?"

"Yes, I did. And I must get back to the office directly or that despatcher—"

I dropped the lantern and pressed both hands to my head.

"She mustn't stand here longer—she's dripping wet!" cried Spencer, making a motion as if to strip off his coat.

Mr. Frazier had his about me in a trice.

"I'll take her onto one of the coaches, but I'm afraid none of them are really warmed."

"My stove's red-hot—just lift her up," called the baggageman. In a moment I was shivering in his chair beside the glowing stove.

It was some time before I could give a connected account to the eager superintendent, for my teeth were still chattering.

"You are a brave woman!" he exclaimed when I had finished.

The rest were silent, but my hand was hanging limply over the chair-arm, and Mr. Frazier, who was close beside me, managed to press it unseen.

"You're mistaken, Mr. Spencer," I said; "I was badly frightened, but I would not have been human had I stayed in the office."

Mr. Frazier pressed my hand again. A thought struck me and I started up.

"That despatcher!" I explained. "He was calling me when I left the office. I must get back there and explain. He'll write me up sure!"

"I have sent two men up the river to look for a boat," said the superintendent. I don't think you need fear the despatcher. I'll explain matters to him myself. Your conduct of to-night shall not be forgotten."

A few minutes later Brakeman Mc-

Guire and the train porter arrived in a skiff which they had found at a landing. Dodds and his fireman, together with two or three armed passengers, were left in charge of the train. The remainder of the crew, with the exception of the flagman, who had been sent to the rear, entered the skiff.

I insisted on accompanying them, despite some remonstrance from the superintendent and Mr. Frazier. They feared trouble with the wreckers. But my nerves were wrought up to such an extent that, strange as it may seem, I feared Despatcher Morrisy more than any number of wreckers. They finally gave in, and I was bundled into the boat by the impatient superintendent.

I noticed that they muffled the lantern to guard against bullets. None of the crew were practised oarsmen, and some time elapsed before we gained the opposite shore. The light in the depot window gleamed faintly through the rain, and I recommenced shivering, despite the warm rugs in which Mr. Frazier had swathed me.

We reached the station without being molested. There was no trace of the wreckers. Evidently they had decamped as soon as they found their fiendish scheme was balked.

The door was bolted as I left it, and the revolver was lying on the register.

Mr. Frazier went around to the window I left unfastened, climbed in, and opened the door. The first sound I heard when on the threshold was:

"No. 99—ON—ON—WO—9—"

I ran to the key and responded.

"Wts t matr wi u?" (What's the matter with you?) snapped Morrisy.

"Ntg (nothing) Ive—" I began, but he seized the circuit.

"Yes, uve delayed first No. 52—35 mins. at RD, tts wt uve done! I dnt like to rpt (report) ay 1 (any one), but I'll have to explain tt delay, a Im gng to turn it in as it is. Wy hvnt u givn No. 10s sig to tt (that) No. 9?"

Before I could reply my hand was snatched from the key by that of the superintendent.

"I'll settle with him," he said. "Frazier, take this girl home and arouse the authorities. Wake up Clapp; he can work the rest of the night."

I thanked Mr. Spencer; I felt sick and dizzy. Mr. Frazier and I left together. As we did so we saw first No. 51 heading into the mile passing-track.

I learned later that they were delayed by pulling out a couple of draw-heads on the grade between Woodford Junction and Cleves.

We walked the whole way in silence, but at the gate Conductor Frazier paused a moment.

"It was all my fault—our quarrel," he said in a choked voice. "I'm not fit to speak to you. Forgive me?"

"Don't think of it any more, Frank; it was your danger that made me brave to-night," I replied.

Two weeks went by before I was able to report for duty. Long before I did so I learned that the wreckers, two power-yard men who had been discharged by the superintendent, were captured at Norwood and had confessed.

I did not work many more nights at Oakton. Mr. Spencer was as good as his word. Within a month the chief offered me the day work at Woodford—the best position on that district. But I declined the generous offer, and a few days later resigned from the service.

The last night I worked at Oakton Despatcher Morrisy said: TY tell me ure gng to change ure sig, a leave us for a betr job."

"Do they?" I queried.

"Yes," he wired back, and then continued: "Wl if u hdl (handle) the housekpn keys as well as u do these, ull be all right. It wont seem like t same old smile wn ure gone, but its all in t play aywy!" he said, and it seemed to me that the sounder had taken on a lonesome tone.

TOLD IN THE SMOKER.

THE GOLD-MINE BO'S LAST FREIGHT.

Only Two Lone Men on a Mountain Knew That Something Was Wrong on the Single Track Far Below.

BY DUKE BEASLEY.

FOUR of us, "Shoes" Brady, Steve Connors, Sid Moffitt, and myself, were smoking and talking "shop" as the east-bound flier hustled along down the Beaumont grade into Indio, California, on the main line of the Southern Pacific. When the train stopped at the station and many hungry passengers piled off to take advantage of the ten minutes for coffee, Steve's face lit up reminiscently.

"I never pass Indio in the last few years that I don't think of my hobo and his gold mine," he remarked.

"Cough up," said Shoes.

The rest of us settled to listen.

"One Saturday back in the fall of 1911," he began, "I received a telegram in Los Angeles calling me to Yuma to close a deal for some supplies for the old Picacho mine. The mine is on the California side of the big muddy, about twenty-eight miles out of Yuma.

"I expected to get to Yuma Saturday afternoon, remain overnight, and drive out to the mine Sunday night, and be back in Los Monday morning, which was exactly what I did do. I remember that I made this same train out of Los Angeles and was due in Yuma at 5.45 P.M.

"When the train pulled into Indio I happened to see Engineer Billy Meadows on the platform, and as Billy is a brother Kentuckian and the only horse-trading knight of the throttle I know of, I got off to speak to him, but before I could reach him or attract his attention he was off to his engine, and knowing that I would see him in Yuma, the end of the division, I passed the matter up, and began to pace the platform, noting that the men were busy with a hot box, and that we would probably be delayed.

"On the gas-pipe fence around the railroad palms, a typical hobo was whistling happily, and as I approached he grinned and asked for a match. Surprised that it was all he asked for, I complied. He lit his pipe. I gave him the 'once over' and decided that I liked his looks.

"'Waiting for a freight?' I countered.

"'Yep; but it will be my last freight,' he replied, and grinned again as he continued; 'after this, it 'll be me for the cushions.'

"I saw that he wanted to talk. The railroad men were still wrestling with the hot baby and I happened to be in a receptive mood. I handed him a weed and we talked.

"It seems that he had caught the wanderlust very young. The previous summer he had been a chainman with a government survey on the canal route from Laguna Dam to the Imperial Valley. He had previously worked at mining, and he spent his leisure moments examining prospects, knocking about the ledges and gullies and panning for color.

"You fellows know the Pot Holes country as well as I do. You know how thousands of dollars have been taken from a twenty-foot square and the next few acres raked with a fine-tooth comb without showing one per cent to the pan. Sometimes after a hard rain a Mex will find a piece of picture rock that would start a gold stampede, and then spend the next six months in the back-breaking game of trying to find another.

"The young fellow had run into a ledge that showed promise. Every spare moment he spent on his prospect. Before camp was moved he had made his location, filed his papers, and performed assessment work to hold the claim for a year.

"He had also tried to get somebody to grub-stake him, but as nearly every man in Yuma County has had a mine at some time, most of them to their sorrow, he made no progress.

"He took the only chance left and tackled the work problem. He toiled and saved as only a man with a definite purpose can, until he had two hundred iron men salted away. He was going back to grub-stake himself and work his claim. And to keep from spending any of his hard-earned cash he was traveling via the refrigerator freight.

"As the conductor shouted 'All aboard,' I started for the car and he called after me.

"'I'll get a train out to-night and I'll be in Yuma to-morrow.'

"I settled back in my seat and straightway forgot all about it.

"The next morning, Sunday, I secured a rig and made a bright and early start for the mine, arriving there about 10 A.M., and had no trouble in successfully doing business. As Shoes here, would express it, 'everything was greased for the occasion.'

"With a good luncheon under my belt, I had the Mex hook up the team, and about one o'clock pulled out for Yuma. The road was all down-grade going back, and as it was a beautiful fall day, I let the horses jog along and smoked and drowsed until finally the horses pulled up and I wakened with a start.

"An eight-mule freight wagon was stopped in the road, and on top of the heavy load of lumber and mine timbers the Mexican driver was prancing, jabbering Mex and pointing away toward the railroad all at one and the same time.

"I looked in the direction the Mexican was pointing and noted a long freight-train about four miles away east-bound. Thinking the Mex was merely jabbering about the train, I touched the horses with the whip and drove on.

"Then the road dipped in behind a ledge and it was about a mile further on before I again caught sight of the train. When I did I stood up and yelled. Three miles away the refrigerator train was doing its twenty-five per, and swinging out from the bridge in Yuma was a long freight westbound and gathering speed as she cleared the bridge.

"The two trains were about seven miles apart on a single track, hidden from each other by the chain of foot-hills and the long curve about six miles out of Yuma. All I could do was gaze with wildly staring eyes, and I remember voicing a sort of prayer for the engineers. The fruit train passed behind the foot-hills and out of sight in the cut.

"The other train had gathered speed, and I could almost feel the engineer setting her down for the long run ahead. Then out of the mouth of the cut the fruit train poked her nose, and it seemed to me that both engineers reached for the whistle at the same time.

"I could see the engine-crews jumping, and could almost catch the jar of the brakes and then the crash; one engine almost on top of the other—the air full of flying débris.

"I was struck numb for a minute or two and then I put the whip to the horses and started for the scene. After driving about two miles I found a place where I could cut across country and get within a hundred yards of the wreck, and having anchored the horses to a mesquit bush I footed it over.

"Nineteen cars were smashed to kindling wood, and the right-of-way for about a hundred yards looked as if all the orange-trees in California had been struck by an earthquake. As I came up to the wreck I noticed the trainmen pulling a body out from the wreckage of an orange car and I walked over, morbidly curious, wondering if one of the engineers had made a bad jump.

"It was the body of my Indio tramp. He had indeed ridden his last freight.

"Standing out there in the warm sun of a beautiful Sunday afternoon I told the boys something of what he had told me. There was not a single mark of identification on the body and not even a letter by which his name could be established.

"All that was mortal lies to-day in the Potter's field of the Yuma cemetery."

"What became of his money?" asked Shoes.

"All we could find on the body was thirty-five cents."

"How do you account for it?" persisted Shoes.

"My boy, I have long ago ceased to try to account for anything. He may have been trying to string me. He might have sent his money on to Yuma. Possibly fate intervened to save him from becoming a disappointed gold seeker. I wonder sometimes myself."

By the Light of the Lantern

Ask us what you want to know

WE want to be as useful as possible to our readers, but, because of the great popularity of this department, we are obliged to impose certain restrictions. It is limited to the answering of questions of an informative, technical, or historical nature only. We cannot answer requests for positions or give information regarding employment. All letters should be signed with the full name of the writer, as an indication of his good faith. We will print only his initials. The editor begs that readers sending in questions will not be disappointed if the answers do not appear as early as expected. It frequently takes weeks to secure correct answers, owing to the complexity of the questions. All questions are answered free of charge.

J. F., Toledo, Ohio.—The incompressibility of liquids was for a long period considered to be an absolute fact, but extensive modern experiments have proved conclusively that the reverse is the case. It has been positively determined that the water at the bottom of the ocean, at a depth of five miles, is one-fortieth heavier, volume for volume, than the water at the surface. A physiographically important peculiarity of water is that it expands on freezing into ice, while most other liquids do the reverse.

Eleven volumes of ice fuse into only ten volumes of water, and the ice-water so produced, when brought up to higher temperatures, again exhibits the very exceptional property that it contracts from 32 and 36 degrees Fahrenheit by about one-thousandth of its volume, and then expands again by more and more per degree of increase of temperature. In regard to compressibility under pressure it is estimated that water submitted to a pressure of 10,000 pounds loses one thirty-sixth of its volume. Under this pressure one cubic foot of water, that is 1,728 cubic inches, could be reduced to 1,680 cubic inches.

A CLAIMS that the piston of a locomotive does not come back when the engine is running forward and not slipping. He says that the cylinder goes ahead, and the piston does not make a backward stroke. B claims that the piston does make a backward stroke whenever the drivers are turning or whether they are slipping or not. Who is right?—F. H., Philadelphia.

The man who supports B's argument is right. The piston does make a backward movement in the cylinder. This is a case of relative motion. If you were to uncouple the back end of the connecting-rod and lay it down so as to rest against the edge of a tie and were then to use steam with the other side of the engine disconnected, the cylinder would relatively move over the piston, because the piston would remain opposite any object on the ground which it happened to be opposite at the beginning of the stroke. But when the butt end is coupled to the crank-pin, the half revolution of the wheel due to the back stroke carries the whole engine along perhaps ten feet or more, and the cross-head and piston are carried along with it, though the piston is moving from the front cover to the back cover with a positive motion all during the back stroke.

WHAT is the fastest scheduled train in this country?

What will be done with the surplus motive-power in the Panama Canal Zone?—G. A. F., Mare Island, California.

The fastest scheduled train in the United States is the Atlantic City Flier of the Atlantic City Railroad, Philadelphia and Reading Route, between Philadelphia and Atlantic City. This train is scheduled to cover the 55½ miles between Camden and Atlantic City in 50 minutes.

(2) It is to be put on the market and sold to the highest bidder. We understand about one-half of it has already been purchased.

J. W., Lodi, New Jersey.—The crackling sound occurring in pressing axles into cast-iron wheel-centers arises from the compression of the metals. The variation in the elasticity of the metals need not be described in detail. It is considerable. Both metals under severe pressure assume different forms, fine steel assuming a stringy or fibrous form, while the cast-iron assumes a crystalline or sandy form. The sudden change of form of the metallic molecules is always accompanied by more or less of a crackling sound. Grease has some but not much effect in subduing the sound.

IS the Père Marquette an independent road?

(2) What road is the Monon Route?

(3) What road is the P. McK. and Y.?

(4) Has the Central Vermont Railway a roundhouse in New London, Connecticut?

(5) How do the Stephenson and Baker valve-gear differ?—R. A. L., Danielson, Connecticut.

(1) Yes.

(2) Chicago, Indianapolis and Louisville Railway Company.

(3) The Pittsburgh, McKeesport and Youghiogheny Railroad. The road is now part of the New York Central lines.

(4) Yes. W. T. Hinchey is roundhouse foreman.

(5) The parts of the Stephenson valve-gear may be briefly described as consisting of a link with the slot curved to the arc of a circle with a radius about equal to the distance between the center of the driving-axle and the center of the rocker-pin. Fitted to slide in the link-slot is a block which encircles the rocker-pin. The eccentric-rods are pinned to the back of the link, the forward eccentric-rod generally connecting with the top and the back-up eccentric with the bottom of the link.

Bolted to the side and near the middle of the link is the link-saddle, which is furnished with a stud to which the hanger is attached. This hanger connects with a lifting arm operated by the reversing-rod which enables the engineer to place the link in any desired position. In full gear, that is with the reverse-lever at either extreme end of the quadrant, the action of the link upon the valve is the same as a single eccentric.

At this point the rocker-pin and the pin connecting the eccentric are in line. When the link-block is shifted toward the center of the link the horizontal travel of the rocker-pin is decreased, consequently the travel of the valve is reduced. The method of obtaining various degrees of valve travel is to move the link so that the block which encircles the rocker-pin shall approach the middle of the link.

It can be understood readily that the position of the eccentrics in their relation to the main crank-pin determines the position of the valve in relation to the position of the piston. When in full gear the eccentric whose rod-end is in line with the rocker-pin exerts almost exclusive control over the valve movement, but as the reverse-lever is moved toward the center the valve becomes to some extent influenced by both eccentrics.

Briefly, the Stephenson valve-gear requires two eccentrics so adjusted as to control the valve for both the forward and backward motion of the engine, and the intermediate action of a shifting link is so arranged that one eccentric can be placed in operation and the other held, as it were, in abeyance until the link is moved vertically. In addition to this quality the variation between the two extreme ends of the link may be so utilized as to shorten the travel of the valve and economize the use of steam.

The Baker locomotive valve-gear gets its motion from two points: the single eccentric-crank, which is attached to the outside of the main crank-pin and the crosshead. The eccentric-crank moves the radius-bar and the action that the radius-bar has on the valve is controlled by an intermediate hanger known as the reverse-yoke. The radius-bar and the reverse-yoke take the place of the link and block of a link motion.

The connection from the crosshead has the effect of moving the valve the amount of the lap and lead each way. This connection has also the effect of making the lead constant and independent of the cut-off. The gearing is therefore independent of either eccentrics or links. To obtain a clear notion of the movement it must be

observed that the union-link attached to the crosshead and the eccentric-rod are both attached to the separate ends of a lifter-bar.

The end of the lifter-bar attached to the eccentric-rod describes a circle or ellipse, according to the relative proportions of the arms of the bell-crank, but always at an irregular velocity. This variable motion is conveyed to a bell-crank, the lower end of which is attached to the valve-rod crosshead to which the valve stem is attached and held in place by adjustable nuts.

The result of the two initial motions conveyed through this system is such that the valve travels rapidly at the beginning of its stroke, and by the time that the piston has moved about one-twentieth of its stroke the valve is wide open and it lessens its velocity while the piston is traveling with increasing speed during the first half of its stroke. As the piston approaches the release point the valve again travels with increasing rapidity and closes with a high speed.

H. L. C., Westerly, Rhode Island.—Nearly all the large railroad systems have their own staff of detectives or police. The organization on most roads is known as the special agents' department. This department is generally under the supervision of the general manager or general superintendent, but is sometimes under the direct control of the president, according to the size of the road or the extent of work covered by the department.

The organization of this department differs materially on different roads. On some roads the heads of this branch are known as special agent, chief special officer, chief patrolman, superintendent of police, traveling officer, *et cetera*. There is no fixed scale of wages for men employed in this service. As a rule the rank and file of this department do not receive more than $100 a month.

G. F. H., Middle Amana, Iowa.—Several formulas for coloring brass various shades of brown by the oxidation process are as follows:

(1) The brass is immersed in a dilute solution of mercurous nitrate; the layer of mercury formed on the brass is converted into black sulfid, if washed several times in potassium sulfid. By substituting for the potassium sulfid the sulfid of antimony or that of arsenic, beautiful bronze colors are obtained, varying from light brown to dark brown.

(2) A solution of chlorid of platinum is employed, which leaves a very light coating of platinum on the metal, and the surface is bronzed. A steel tint or gray color is obtained, of which the shade depends on the metal. If this is burnished, it takes a blue or steel-gray shade, which varies with the duration of the chemical action, the concentration, and the temperature of the bath. A dilute solution of platinum contains 1 part chlorid of platinum; 5,000 parts water.

Another solution, more concentrated at the temperature of one hundred and four degrees Fahrenheit, is kept ready. The objects to be bronzed are attached to a copper wire and immersed for a few seconds in a hot solution of tartar, 30 parts to 5,000 parts of water. On coming from this bath they are washed two or three times with ordinary water and a last time with distilled water. It is then put into the solution of platinum chlorid, stirring them from time to time. When a suitable change of color has been secured the objects are passed to the concentrated solution of platinum chlorid, (forty degrees). They are stirred and taken out when the desired color is obtained. They are then washed two or three times and dried in wood sawdust.

WHICH were the first three cities in the world to have electric cars?—P. J. B., Salt Lake City.

The first public electric cars for city streets were operated in 1881 when Siemens and Halske constructed a short commercial road at Lichterfelde near Berlin, Germany. Two insulated track rails were used in a 180-volt circuit. The wheel was insulated from the hub by a wooden band. Later an overhead trolley was used, and the road is now operated as a 600-volt trolley line.

In 1883 Siemens and Halske constructed a third-rail line, the Portrush Railway near the Giants Causeway in northern Ireland. The power was obtained from a water-fall operating a 250-volt direct-current dynamo. In 1884 Bentley and Knight operated a road in Cleveland, Ohio, hav-

ing two miles of underground conduit placed between the rails. The cars used on this line were perhaps the first driven by a series motor placed under the car floor.

While this is a direct answer to your question, many previous experiments were made. The developments of practical electric street-railways may be said to date from February, 1888, when the Sprague Electric Railway and Motor Company constructed an eleven-mile railway at Richmond, Virginia.

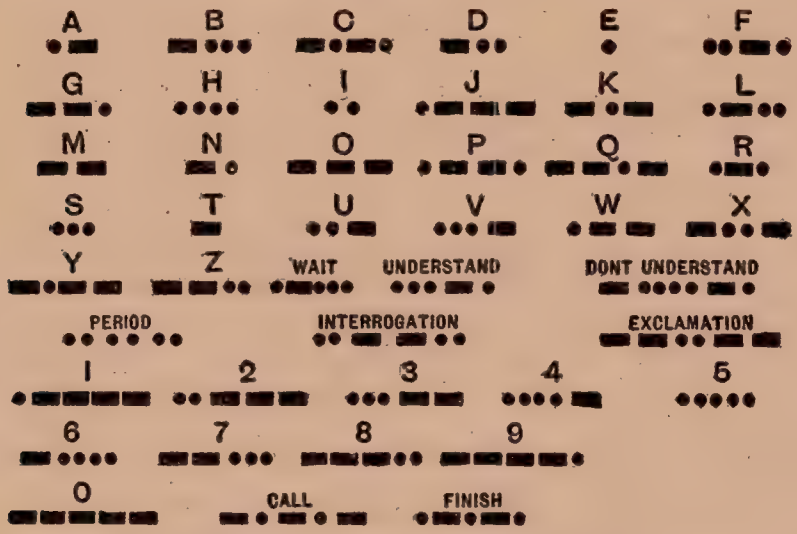
In July, 1888, thirty cars were in operation on this line. The power was furnished from a 300-horse-power steam-engine and a 450-volt direct current, belted generator, and was transmitted by copper conductors to small cars, each equipped with two 7-horse-power series wound motors.

WHAT is a compressed-steam locomotive?—C. M., Harrisburg, Pennsylvania.

You probably refer to compressed-air locomotives, which are used for special purposes, such as mine haulage or in small tunnels where the head-room is restricted and where the atmosphere may not be vitiated by smoke or steam. Such a locomotive carries a strong tank instead of a boiler, and this tank is filled with compressed-air at the charging station up to a pressure of perhaps 500 pounds or more and is then capable of working alone for several hours.

M. L., Camp Hostenburg, Philippine Islands.—On the larger railroads men employed in the dining cars and eating-houses owned and operated by the railroad company are under the direct supervision of the superintendent of dining cars.

(2) See answer to H. L. C., Westerly, Rhode Island, in this issue.



CONTINENTAL WIRELESS TELEGRAPH CODE.

From the "Manual of Wireless Telegraphy and Telephony," by Frederick Collins. Reprinted by permission of the publishers, John Wiley & Sons, New York City.

PLEASE print the wireless telegraph alphabet.—G. P. M., Redland, Georgia.

There are several alphabets, but as the Continental wireless alphabet is in widest use we print it on this page.

B. H., New York City.—Full particulars in regard to the pay, hours of service, *et cetera*, for locomotive engineers and firemen will be found in the answer to A. S. W., Rox, Massachusetts, on page 615 of the July, 1914, RAILROAD MAN'S MAGAZINE.

As we have frequently stated, nearly all the leading railroads have regulations of

their own, copies of which may be had on application to the offices at division points. As a general rule men under eighteen years of age must have the consent of their parents. No previous experience is expected when entering the service. Application forms for positions in a roundhouse may be had from the master mechanic or superintendent or those immediately in charge of roundhouses.

IF a locomotive equipped with a piston-valve, inside admission, direct motion, has a cut-off on both sides, 4 inches in front and 8 inches in back, should you shorten or lengthen eccentric-rods to make the engine cut off at 6 inches on both sides?

(2) If a locomotive similarly equipped indirect motion, has a cut-off 4 inches in front and 8 inches in back what change should be made to equalize the cut-off?

(3) Further, in a locomotive equipped with slide-valve, outside admission, indirect motion with a cut-off at 4 inches in front and 8 inches in back, what change should be made?—C. M., St. Thomas, Ontario.

Assuming that the valve-gear has been adjusted so that the valve-openings are correct at the end of the piston-stroke and with the reverse-lever at either extreme end of the quadrant, it would be idle to experiment with the eccentric-rods to rectify a defect of this extent in the point of cut-off. The error is of an organic kind and is due to the fact that the point of suspension on the link-saddle where the link-hanger reaches from the lifting shaft to the link, has not been set on the proper position. It will be noted that the suspension-stud is not set transversely in the center of the link, but is generally as much as seven-eighths of an inch in front of the center of the link. This divergence from the central position has the effect of making up for what is known as the angular advance of the main-rod and eccentric-rods, and while the variation from the true center can be ascertained by careful calculation it is always safer to secure the exact point by experiment.

For this reason when applying new links or new link-saddles which in effect are the same, the bolt-holes should not be dulled in the link-saddles until the exact point of suspension is determined. The saddles should be held in place temporarily by clamps and the operation of adjusting the valve-gear continued. The moving backward or forward of the link-saddle will readily show in its effect on the points of cut-off what should be done to obtain the true point.

Furthermore, if an attempt should be made to rectify the variation in the cut-off by lengthening or shortening the eccentric-rods, the true position of the valves at full stroke would be correspondingly disturbed. In the case of the excessive amount of variation mentioned in the questions, the rectifying of the variation by shifting the eccentric-rods alone would render the engine almost entirely useless when at full stroke, because the amount of lead at one end would be so great as to impede the movement of the piston, while at the other end the lap would be so great that the steam would not be admitted until the piston had traversed a considerable portion of its path in the other direction.

Do not attempt by compromise to remedy a defect of such magnitude, but get new link-saddles. Of course if this is impossible, and if a temporary attempt is made to rectify the cut-off, try lengthening the rod on the forward gear in the first instance and watch the result.

H. J. R., Lafayette, Indiana.—The Illinois Central Railroad operates 1,077 passenger cars, the Chicago, Burlington and Quincy Railroad, 1,268 passenger cars. From the latest statistics at hand the report of the Pullman Company for the year ending June 30, 1911, the following was the equipment, owned or leased, in service at that time:

Standard sleeping-cars, 4,155; tourist sleeping-cars, 744; parlor cars, 807; dining cars, 24; composite cars, 142; private cars, 36; miscellaneous cars, 4; total, 5,912.

I HAVE noticed that locomotive cylinders wear more on the top. Can you tell me why?—E. L., Howell, Indiana.

Probably the guides are lined too low. The wear should take place more on the bottom of the cylinder than on the top with an engine habitually running forward in good shape and with everything all right. Natural wear on the bottom is due to the weight of the piston and rod.

LOCOMOTIVE CLASSIFICATION.

Wheel Arrangement	Type	Whyte Symbol	Baldwin Symbol
	4-Wheeled Switcher	0-4-0	4 -C
	6-Wheeled Switcher	0-6-0	6 -D
	8-Wheeled Switcher	0-8-0	8 -E
	10-Wheeled Switcher	0-10-0	10 -F
		2-4-0	6 -C
		2-4-2	8¼-C
		3-4-4	10¼-C
	Mogul	2-6-0	8 -D
	Prairie	2-6-2	10¼-D
		2-6-4	12¼-D
	Consolidation	2-8-0	10 -E
	Mikado	2-8-2	12¼-E
	Decapod	2-10-0	12 -F
	Santa Fe	2-10-2	14¼-F
		4-2-2	8¼-A
	American	4-4-0	8 -C
	Atlantic	4-4-2	10¼-C
	10-Wheeled	4-6-0	10 -D
	Pacific	4-6-2	12¼-D
	12-Wheeled	4-8-0	12 -E
	Sierra or Mountain	4-8-2	14¼-E
	Mastodon	4-10-0	14 -F
		0-4-2	6 1-3-C
	Forney	0-4-4	8 1-3-C
		0-6-2	8 1-3-D
	Mallet Articulated	0-4-4-0	8 -CC
	Mallet Articulated	2-4-4-0	10 -CC
	Mallet Articulated	2-4-4-2	12¼-CC
	Mallet Articulated	2-4-6-0	12 -CD
	Mallet Articulated	4-4-6-2	16¼-CD
	Mallet Articulated	0-6-6-0	12 -DD
	Mallet Articulated	2-6-6-2	16¼-DD
	Mallet Articulated	2-6-8-0	16 -DE
	Mallet Articulated	0-8-8-0	16 -EE
	Mallet Articulated	2-8-8-0	18 -EE
	Mallet Articulated	2-8-8-2	20¼-EE
	Mallet Articulated	2-10-10-2	24¼-FF

On a forward-running engine the top guide sustains all the pressure of the crosshead. Top-guide and crosshead-gib wear faster than the bottom, and if there is lost motion between guide and crosshead, the crosshead goes up to the guide at the beginning of every stroke, and when the guides are lined up too low it helps to increase this wear.

C. A. W., New York City, and other readers.—Locomotive builders and nearly all the railroad companies have their own systems of designating or classifying the various types or modifications of type of locomotives built or owned by them. Considerable variation exists in this connection, for no specified system of locomotive classification has met with general adoption. Possibly the method suggested by Mr. F. M. Whyte and known as the Whyte System is in most general use, though its application should not be confused with the authoritative classification in individual use.

The Whyte System is based on the wheel arrangement of the locomotive.

Each set of trucks, drivers, or trailing wheels are grouped and indicated by figures, the grouping beginning at the head-end of the locomotive. A locomotive of the Mikado type is denoted in the Whyte System by the symbol 2-8-2, an Atlantic type by 4-4-2, a six-wheeled switcher by 0-6-0, and so on.

The accompanying diagram shows in the first column the arrangement of the wheels, the second column the general applied name as used in the United States. The third column shows the classifications of F. M. Whyte; the fourth shows those of the Baldwin Locomotive Works.

The Baldwin Locomotive Works notation employs figures and letters to indicate the number of wheels of different kinds and the size of cylinders. A locomotive having one pair of driving-wheels is classed as "B," that with two pairs "C," with three pairs "D," with four pairs "E," and with five pairs "F." The letter "A" is used for a special class of high-speed locomotive with a single pair of driving-wheels, and for a smaller type used for rack-rail service.

In articulated locomotives a letter, as above, is used to designate the number of driving-wheels in each group. A figure is used as an initial to indicate the total number of wheels under the locomotive, and the letter, as stated above, indicates the number of driving-wheels.

The size of the cylinder is, of course, not shown in the fourth column, but is represented by a number, which is found by subtracting 3 from the diameter of the cylinder in inches and multiplying the remainder by 2; thus, a 19-inch cylinder would be represented by the number 32, so that a Mogul locomotive with 19-inch cylinders would be termed an 8-32-D. Conversely, the size of cylinder may be obtained by dividing the class designation for cylinders by 2 and adding 3.

When there are trucks at both ends of the locomotive the fraction ¼ is placed after the cylinder number, and when there is a truck at the rear end and none at the front, the fraction is one-third. Thus, a Mikado type locomotive with 19-inch cylinders would be a 12-32¼ E, and one of the Forney type would be 8-32 1-3 C.

The same rule is carried out in the classification of compound locomotives. In this case, however, a number is given to indicate the diameter of each cylinder, that indicating the high pressure being written over the low pressure. Thus, 10-22-42 D 100 indicates a compound locomotive with ten wheels in all, having high-pressure cylinders 14 inches in diameter, and low-pressure cylinders 24 inches in diameter, with three pairs of driving-wheels and the one-hundredth locomotive of its class.

The final figure indicating the class number of the locomotive is used in connection with all engines regardless of the types to which they belong.

WHAT is an equalizer?

(2) What is the difference between a simple and compound locomotive?

(3) Describe fully the Richmond compound locomotive.

(4) Describe fully the E-6-S type of engine lately put in service on the Pennsylvania lines.—H. T., Chicago.

A beam connected at each end to a driving or truck-spring, or to the end of any similar beam, for the purpose of distributing the weight of an engine or tender to two or more axles, and to prevent an excessive load being thrown on one axle by reason of inequalities of the road-bed or track. It is sometimes called an equalizing-beam.

Locomotives having two driving-axles have these two equalized together, while those with three or more commonly have the forward driving-axle equalized with the leading truck. Equalizers are always used for four-wheel engine-trucks, and frequently with tender-trucks. Equalizers are designated as track equalizers when they connect the equalizing systems on the two sides of the locomotive. They are also designated by their position as equalizer, top of box; equalizer between drivers, *et cetera*.

(2) A simple locomotive may be briefly described as an engine where the steam, after having been admitted to the cylinder and having moved the piston almost the entire length of the stroke, is then exhausted into the open air, passing through the exhaust-pipe and thence by the smoke-stack to the atmosphere. The word "simple," in this case, means that the steam is only used once.

A compound locomotive is a locomotive having one or more cylinders so arranged that the exhaust steam passes from one

cylinder into another cylinder or cylinders, where it performs additional work before being discharged from the exhaust nozzle and stack. Two general groups may classify compound locomotives: two-cylinder compounds and four-cylinder compounds. The Midland Railway, England, has in service some three-cylinder locomotives in which one high-pressure cylinder exhausts into two low-pressure cylinders, but this method is exceptional. Two-cylinder compounds are built with the high-pressure cylinder on one side and the low-pressure on the other, connection between them being made through a receiver in the smoke-box.

An intercepting-valve is provided in order to operate it as a simple engine when that is necessary.

(3) The Richmond compound locomotive has what is known as the intercepting valve on the low-pressure side, and is moved automatically by receiver pressure. Starting in simple position, the engineer admits air or steam into the small cylinder at the left opening to emergency exhaust-valve from the high-pressure cylinder. Steam from that cylinder flows over through receiver and also through intercepting valve at the left to emergency exhaust. At the same time live steam to low-pressure cylinder goes from passage so marked through reducing valve to low-pressure chest.

Changing to compound, the emergency exhaust is closed by a spring, and receiver pressure acting in the large area of intercepting-valve forces it open, closes live steam passage through reducing-valve and steam goes to low-pressure cylinder. In starting an ordinary train the emergency-exhaust is not open, but the live steam opens the reducing-valve, closes intercepting-valve passage to receiver and starts engine as simple.

When the exhaust from the high-pressure cylinders fills receiver with pressure sufficient to open intercepting valve, the engine goes into compound as before. The cylinder-cocks should always be opened when starting, as condensation is very rapid for the first few revolutions, especially in the high-pressure cylinder. The exhaust relief valve, located under the emergency-valve, is also automatic in its action. It opens when the throttle is shut, and allows air to pass from and to the cylinder when drifting, thus preventing sparks from being drawn into the cylinder.

(4) The following are the principal dimensions of the locomotive referred to:

Type	Atlantic
P. R. R. Classification	E6s
Gage	4 ft. 9 in.
Service	Passenger
Fuel	Bituminous coal
Tractive power—M. E. P. = 4-5 boiler pressure, pounds	29,427
Estimated total weight in working order, pounds	240,000
Estimated total weight on drivers, pounds	133,100
Wheel base—Driving	7 ft. 5 in.
Wheel base—Total	29 ft. 7½ in.
Wheel base—Engine and tender	63 ft. 10½ in.
Tractive power × diameter of drivers ÷ total heating surface*	599.00
Total heating surface* ÷ grate area	71.30
Fire-box heating surface ÷ total heating surface*, per cent	4.93
Volume both cylinders, cubic feet	13.10
Total heating surface* ÷ volume both cylinders	300.00
Grate area ÷ volume both cylinders	4.21
Kind of cylinders	Simple
Diameter and stroke of cylinders	23½ in. x 26 in.
Spread of cylinders	85½ in.
Kind and size of valves	12 in. piston
Driving wheels, diameter over tires	80 in.
Driving wheels, thickness of tires	4 in.
Driving axle journals, main, diameter, and length	9½ in. x 13 in.
Engine truck-wheels, diameter	36 in.
Engine truck-journals, diameter and length	6½ in. x 12 in.
Trailing truck-wheels, diameter	50 in.
Type of boiler	Belpaire
Working pressure, pounds	205
Outside diameter of first course in barrel	78½ in.
Fire-box, width and length	72 in. x 110¼ in.
Fire-box, plates, thickness	⅜ in. & 5-16 in.
Fire-box, water space	5 in.
Tubes, number and outside diameter	242—2 in.
Superheater flues, number and outside diameter	36—5⅜ in.
Tubes, thickness	.125 in.
Superheater flues, thickness	.148 in.
Tubes, length	180 in.
Heating surface tubes, saturated, sq. ft.	2,660.5
Heating surface fire-box, saturated, sq. ft.	195.7
Heating surface, total, sq. ft.	2,856.2
Superheater heating surface, sq. ft.	721.0
Grate area, sq. ft.	55.13
Dome, height above rail	180 in.
Center of boiler above rail	9 ft. 10 in.
*Equivalent heating surface, sq. ft.	3,937.7

F. H. C., Indian Valley, Idaho.—Link motion has always been known as the "Stephenson link," because it was first used on the locomotives built by Robert Stephenson. According to Fred H. Colvin, author of "Link Motion," however, Stephenson never claimed to be the inventor. To quote Mr. Colvin:

"It (the invention) was never claimed by him (Robert Stephenson), but has been credited to William Howe, who was head pattern-maker of the works, by nearly every one until very recently. Now, however, there seems to be no doubt that Howe deliberately appropriated the ideas of another and succeeded in maintaining his claim by a train of circumstances which took away the witnesses of his deception."

RACING FOR A MAIL CONTRACT

How the Burlington and Northwestern Systems Burned the Rails to Carry the Fast Mail Out of Chicago.

MONEY WAS AS GREAT A PRIZE AS TIME.

Transporting Uncle Sam's Mails Out of Chicago Was Worth $750,000 a Year to the Lucky Railroad. Ninety Miles an Hour Was Made Over Some Stretches in America's Greatest Train-Speed Contest Which Lasted for Seven Days.

BY JOHN WALTERS.

HE eyes of William C. Brown, former president of the New York Central Lines, flared with the spirit of the fight that was burning in him. The place was his busy office in Chicago. The cause of the fighting flash in his eyes lay on his desk. It was a sheet of yellow paper containing this seemingly ordinary memorandum:

> The Northwestern is preparing to run a fast mail out of Chicago at 9.15 P.M.

"It's a chip on my shoulder," muttered Mr. Brown. "I'll see what the boys think of it." And he telephoned for the "boys" to "come in."

The sign on his office door then read: "William C. Brown, General Manager." That day when his eyes blazed with the spirit of fight as he studied the yellow paper he was "Brown of the Burlington."

The boys came in. One was John D. Besler, then general superintendent of the Burlington; the other was P. S. Eustis, then general passenger agent of the Burlington, to-day passenger traffic manager of that line. Brown showed them the yellow paper.

"Looks like the Northwestern is after the overland mail," said Besler.

"They're going to try to get the business away from us," Eustis agreed.

"There's a joker in the deck," Besler asserted. "Who's the joker?"

"We'll find out," Brown answered.

Five minutes later the wires were carrying a message to the Burlington's attorneys at Washington. Two hours later came the answer, stating that the Union Pacific people had told the post-office department that if mail from the East could be delivered in Omaha before eight o'clock in the morning, instead of at two o'clock in the afternoon, they would start their overland mail train to the far West at eight

in the morning instead of at four in the afternoon, as they had been doing for years.

"There's the joker!" exclaimed Brown. "It is the U. P. And the Northwestern is trying to keep the joker hidden in the deck!"

"I smell politics in this," said the general superintendent angrily.

"It's a plan to gain eight hours on the fast mail schedule between New York and San Francisco—and the Northwestern will claim the contract," said the general passenger agent.

"We'll make the Northwestern fight for it," announced Brown. "We can gain that eight hours for the coast-to-coast mail as easily as our friend the enemy."

All of which needs explanation.

When the officials of the Burlington agreed that the plan of the rival road was to cut down the schedule of the fast mail between the two coasts by eight hours they had in mind the following facts:

First. That the Burlington then held the contract to carry the overland mail between Chicago and Omaha.

Second. That the mail from the East arrived in Chicago at 9 P.M. and laid over there till 3 A.M., when the Burlington's fast mail left Chicago—a delay in Chicago of six hours.

Third. That the Burlington's three o'clock fast mail from Chicago delivered the mail to the U. P. at Omaha at two o'clock the following afternoon, and the U. P.'s overland train did not leave the Nebraska metropolis until 4 P.M.—a delay in Omaha of two hours, making a total delay in Chicago and Omaha of eight hours.

Fourth. That the Northwestern, in putting on a 9.15 P.M. train to connect direct with the Eastern mail arriving in Chicago at nine, meant to show the government that it could deliver the transcontinental mail in Omaha in time for the U. P.'s new overland train to leave Omaha at 8 A.M. each day, thus saving the aforesaid eight hours' delay; and that, therefore, as the Northwestern would thus be giving a better service than the Burlington, the mail contract should be taken away from the Burlington and given to the Northwestern.

Fifth. That the contract for carrying the overland mail between Chicago and Omaha was worth $750,000 a year to the Burlington; and the Northwestern was going to try to wrest this business from the Burlington.

Most Notable Race in America.

This statement of the situation makes it plain that there was real necessity for Brown of the Burlington to fight to hold the contract. When he said he would make the Northwestern "fight for it," he meant that his road would put on an extra train—a 9.15 P.M. train to match that of the Northwestern—and that he would "race" the Northwestern for the contract.

The result was that on the night of January 3, 1899, there took place the most notable race for a mail contract ever run on American railroads. At 9.14 that night Mr. Brown and General Superintendent Besler, accompanied by the master mechanic and General Passenger Agent Eustis, joined Engineer Frank Bullard and Fireman Denis Cullon in the Union Station, Chicago.

Frank Bullard was to drive that night and Cullon was to fire the big, black Baldwin, No. 590, that was to pull the Burlington's racing mail train of three cars over the first division of the five-hundred-mile run to Omaha, Nebraska.

It was snowing; it was blowing great guns; it was blizzardy weather. But who cared! No mere snow-storm could check the enthusiasm of the Burlington men that night.

"Ready?" asked Brown of the engineer.

"Yes," answered Bullard.

"All right! Besler—and you, Bill," Brown added, turning to the superintendent and the master mechanic, "you

two go to the mail cars. I'll ride in the cab. All aboard, Bullard!"

"Not yet, sir. They're still loading us."

The officials saw that the bags of mail were not yet all on the train, though the mail handlers were working like Trojans.

"The Northwestern's train has probably started," announced Brown, closing his watch with a snap.

He referred to the fact that, over in the Northwestern Station, just across the street from the Union Station, the new 9.15 train that the Northwestern had put on to try to beat the Burlington, was probably under way on schedule time. And such, indeed, was the fact.

While waiting impatiently for the men to finish loading the mail from the East into the Burlington's cars, Brown said to Bullard:

"She's been thoroughly overhauled?" He waved his hand to indicate the 590.

"Yes, sir. Been working on her for hours."

Train Started Ten Minutes Late.

And the engineer explained that every part of the huge machine had been overhauled; that the wheels had been wiped over and over; the jackets dusted time and again; the water-tank washed out, and the air-pipes tested and retested; that even the tender had been emptied and refilled with specially sorted coal.

The last mail-bag was flung aboard at 9.25, and the train started—ten minutes late.

Through the yards and out into the suburbs the train flew through the snowy, windy night, till the 590's one big, white eye caught sight of a little, red eye—and the train stopped.

That little, red eye delayed the train another ten minutes. When Bullard again opened the throttle he had twenty minutes to make up. Mile after mile now was reeled off, the pistons plunging faster and faster as the train rushed over culverts and under bridges, up grades and down valleys.

Bullard steered around curves and reverse curves that were meant for forty-five miles an hour at a speed of fully sixty-five miles.

38 Miles in 42 Minutes Through Snow.

Presently Brown, seated on the fireman's side, watch in hand, shouted across to the engineer:

"The first thirty-eight miles in forty-two minutes!"

In the cab all was dark save for a speck of faint light on the steam-gage, the long, thin light on the water-measure, and the occasional flash that blinded Brown whenever Cullon opened the furnace door to heave more coal. As the fireman worked ceaselessly to keep the greyhound of the track at full speed he made Brown think of a stoker in the hold of an ocean liner.

The fireman closely watched the engineer—opening or closing the fire-box, loading coal or suspending operations, in accordance with his understanding of Bullard's movements. The enginemen thus worked together in harmony. And from time to time the fireman would glance at the steam-gage to note the result of his back-breaking work in actual pounds of steam.

Brown noted that the train covered three and a half miles in two and a half minutes; later, seven miles in seven minutes; still later, five miles in four and a half minutes.

At every station, as the train shot by, a crowd cheered wildly. At Aurora, Illinois, a thousand persons yelled encouragement; but the train flew by at such speed that the cheering sounded to those in the cab only like one faint staccato note.

Just beyond Aurora the train made thirty-seven miles in thirty-four minutes. Bullard had gained eighteen minutes of the twenty minutes lost, and was now only two minutes behind schedule.

They rushed beyond of the zone of the snow-storm and into fair night.

Slaking the 590's Thirst.

Despite the racket, the men in the cab could hear the buzz of the water-injector as it threw thirty-five gallons of water each minute, or half a gallon each second, into the boiler.

Then came the stop at the tank at Mendota to slake the 590's thirst. While the brakeman filled her with water Bullard and Cullon, each with flaming torch and long-nosed oil-can, lubricated the joints of their steel racer.

At the same time, here, as at every other stop that night, men with torches, hammers, and oilcans tested every wheel and every coupling and poured oil into every cup, each man doing his part in insuring the safety of the train.

"Wonder where the Northwestern train is now?" shouted Brown, when the train was again pounding over the rails.

The engineer shrugged his shoulders, screwed his soot-begrimed face into a "Don't-care-a-rap" expression.

Those aboard the 590 knew that on a parallel track a few miles to the north another engine crew on another train was making the same mad, blood-chilling speed toward Omaha.

They knew, too, that the Northwestern had the shorter course between the two cities, and also a double track all the way, which the Burlington had not.

They knew, moreover, that in Chicago there had been much betting on the race, and that a lot of money had been laid on the Northwestern to win. But none of these things troubled the men on the 590.

Covered Two Miles in Seventy Seconds.

About that time the Northwestern flier was covering mile after mile in fifty seconds. Later, between Arion and Arcadia, Iowa, the Northwestern's racer covered two miles on a level stretch in seventy seconds. This was almost one hundred and twenty miles an hour, the fastest time made that night on either road. On the whole, however, the two trains ran almost neck and neck for fully three-quarters of the way.

Westward sped the Burlington train at sixty and seventy miles an hour—and more. Finally Brown was catapulted from his seat, and cried:

"Ninety! The limit, Bullard! We're going a mile and a half a minute!"

At that pace it did seem as if they were staring eternity in the face. But Bullard, as if to show Brown that the limit had not been reached, let her out some more and smashed every Burlington speed record by flying two and a half miles at the rate of one hundred and ten miles an hour.

"You'll ditch us!" yelled Brown.

Even Bullard now seemed to feel that the limit had been reached. He steadied her down as she raced over the miles into Galesburg. When they stopped there Brown conceded that he had had enough of cab riding and went back to the mail cars to join Superintendent Besler and the master mechanic.

Ahead of Her Schedule.

On flew the Burlington's fast mail, across the Father of Waters and into Burlington, the end of the first division. She pulled in five minutes ahead of schedule. Engineer Bullard and Fireman Cullon finished their night's work at Burlington, having made the run of 205 miles in 237 minutes.

"You earned your money quickly to-night," said Mr. Brown as he shook hands with the 590's crew and congratulated the two men with the coal-blacked faces, "and you earned every cent."

The 590 at Burlington was replaced by the 1103, with Engineer Sutherland at the throttle. And at such almost daredevil speed did Sutherland drive 1103 westward to Creston, Iowa, the

end of his division, that Brown, noting that the telegraph-poles were flying by as if they were pickets in one long fence, said:

"Sutherland has been pulling our fast mail over this division for twelve years; but he will not be here a dozen years from to-night if he keeps up this pace."

On the last twenty-six miles of his dash through Iowa, Sutherland made up seven minutes' time lost on the early part of his run. He pulled into Creston two minutes ahead of schedule.

Here a newspaper artist, riding in one of the mail cars, asked Mr. Brown's permission to ride on the engine over the last division.

"Certainly," the general manager replied, "if you'll promise not to fall out of the cab window."

Artist in Cab to Make Sketches.

The result was that when the 1612 coupled to the fast mail, replacing the 1103, to haul the train over the last division into Omaha, the artist boarded the cab and announced to Engineer Diffenbaugh and the fireman that he would "make sketches of them in action."

The train started. The artist was ready with pad and pencil. The train gathered speed, flew along at seventy miles an hour over the roughest country on the whole run between Chicago and Omaha. Here were more grades, curves, and reverse curves following the walls of low bluffs than anywhere else on the line between the Great Lakes and the Missouri.

Yet Engineer Diffenbaugh, as if bent on giving that artist the time of his life, neither slacked nor slowed on the curves, but sped on like a Kansas cyclone.

The artist smiled in sickly semblance of unconcern, then suddenly hurled his pad behind the waste-box. He became gray of face and terrified as he was shot across the cab and slammed to the floor. A curve that was meant for forty miles an hour had been rounded at sixty.

The artist picked himself up and hung on for dear life until, to his infinite relief, as they passed a flag station they saw a man swinging a lantern and heard him yell frantically:

"Hot hub on letter wagon!"

Diffenbaugh stopped her, and the artist seized the opportunity to beat it back to the mail car.

"It was not the fault of your engineer that I did not fall out of the cab window," he said to Mr. Brown. "If that hot-box had not stopped us I'd be lying on the right-of-way this minute as dead as my ancestors."

"No wonder!" exclaimed Brown. "Diffenbaugh ran faster than the wind, and the wind is with us. But I see you don't appreciate your opportunities, Mr. Artist. Why, a ride in that cab to-night is the most exhilarating thing I know. It's a joyful drunk, with fresh air as the intoxicant."

Going 73 Miles an Hour.

Cooling the hot-box delayed the train eleven minutes. Then once more onward flew the train at such a pace that the bell of the 1612, driven by steam, made queer, uncanny noises until the fireman fixed the cord so that the bell could not ring.

Diffenbaugh went right on annihilating space, his machine making mile after mile in forty-five seconds as he drove her on to the Missouri, covering the last leagues of his division at the rate of 73 miles an hour and doing his 191 miles over rough country in 200 minutes, stops included. He reached Omaha at 7.47 A.M., just as the sun rose over the Big Muddy.

The Burlington's fast mail was due in Omaha at 7.55. It had pulled in eight minutes ahead of schedule, and all hands were patting one another on the back. Suddenly their elation was dampened by learning that the Northwestern's flier had pulled in ahead of them.

In that all-night race the Burlington was beaten. The Northwestern had pulled into Omaha seventeen minutes ahead of schedule, against the Burlington's eight minutes.

In respect to running time, the Burlington had been beaten also. The Northwestern's time was 9 hours and 58 minutes, with eighteen stops; the Burlington's time was 10 hours and 7 minutes, with twelve stops. Thus the Northwestern made the run in nine minutes less time than the Burlington.

But—and here's an important condition of the race—the condition made by the government was that the new schedule should be maintained for seven consecutive nights. Therefore it was not a matter of just a one-night race. It was to be a seven nights' race both ways; for the east-bound schedule had to be maintained as well as the west-bound.

At the end of the seven nights' race the Burlington had won. On the second and third nights the battle was drawn, both trains making practically the same time. Thereafter, however, the Burlington maintained the schedule, while the Northwestern fell a little behind. The result was that the Northwestern, after its noble efforts, did not get that mail contract. The Burlington kept it.

Gaining Eight Hours Across Continent.

That race between the Burlington and the Northwestern was the most spectacular and most thrilling ever run in this country. The schedule between New York and San Francisco had been tightened up to the extent of eight hours. The continent had shrunk. San Francisco had been brought nearer to New York by a third of a day, and that eight hours was gained by cutting out the delay of six hours in Chicago and the delay of two hours in Omaha.

The Burlington's engines used in the seven nights' race were the largest then running on Western tracks. The 590 weighed 130,000 pounds, held 4,000 gallons of water, had four 7-foot drivers, and hauled three cars weighing 60 tons each. Yet in writing of this famous mail train, Passenger Traffic Manager Eustis said:

"The thought of that dinky little three-car mail train makes us laugh to-day. It looks so ridiculous compared with the big engines we run now with a mail train of from six to eight cars, every car heavier than any we had at that time."

And to-day, it should be added, the government pays the Burlington in the neighborhood of $2,000,000 a year for carrying the mails over that all-important link in the transcontinental service that calls for the fastest mail run in the country.

Immediately following the exciting seven nights' race there was another race for a mail contract—a transcontinental contest—the very last event of general interest in which an American railroad raced for a mail contract.

A Race with Time.

This was not a race between trains of rival roads, but a race with Father Time by roads that already held contracts to carry the cross-continent mails. It was a race from coast to coast. Seven different railroads took part.

The reason this great race was run is as follows:

It seems that the eight hours gained by the new trains that were put on by the Burlington and the Union Pacific were not enough to satisfy the government. The Postmaster-General, Charles Emory Smith, in President McKinley's Cabinet, declared his belief that if eight hours had been gained in the running time of the overland mail by a tightening of the schedules on the Burlington and the Union Pacific, five more hours could be gained by a further tightening of schedules on these and other roads involved in the cross-country haul of

the mail. He believed that San Francisco could be brought five hours nearer to New York.

That was the first, last, and only race across the continent with Father Time for a mail contract—a race involving the seven different roads then engaged in the transportation of the mails from New York, Boston, Philadelphia, and other Eastern cities to the Pacific coast.

At that time, even with the eight hours gained in the seven nights' race, it required about four days to get a letter from New York to San Francisco. The purpose now was to reduce the time to about three and three-quarter days. The entire country watched the race with great interest, and this is what happened:

One night in January, 1899, one fast mail left New York over the New York Central at seven o'clock instead of at six, as formerly, thus gaining one hour before a wheel turned. A second fast mail left Boston over the Boston and Albany Railroad; and a third fast mail left Philadelphia over the Pennsylvania. The trains from New York and Boston were made into one at Albany, the New York Central hauling the combined train to Buffalo, where the fourth road in the race, the Lake Shore, carried the train westward.

A 500-Mile Dash to Omaha.

At the Lake Shore's station in Chicago twenty mail wagons awaited the arrival of the Lake Shore's fast mail. The mail handlers worked like beavers when the train pulled in, unloading the hundreds of bags of mail from the cars and loading them into the wagons, which were then rushed across town to the Union Station, where stood the mail train of the fifth road in the race, the Burlington. There the bags were transferred from the wagons to the Burlington's cars. And all the work of transferring the mail in Chicago was accomplished in forty-five minutes.

The Pennsylvania's train from Philadelphia pulled into the Union Station at the same time and stopped alongside the Burlington's fast mail, to which were also transferred scores of bags of mail from the Quaker City, Baltimore, Washington, and Pittsburgh.

Then the Burlington train pulled out for the five-hundred-mile dash to Omaha, where the mail was transferred to the overland train of the Union Pacific, the sixth road in the race. Then away sped the U. P. train on its run across Nebraska, Wyoming, and Utah to Ogden. Thence the train continued westward over the tracks of the seventh road in the race, the Southern Pacific, arriving at San Francisco on time as called for by the new schedule.

The continent had again shrunk. Five hours more had been cut from the running time between the two coasts. The mail had been carried from the Atlantic to the Pacific, for the first time, in less than four days, the actual running time being three days and eighteen hours.

Since then the schedule for the overland mail has been still further reduced each year, until to-day the mail is carried across the continent in three days and seven hours.

The fast mail schedule is as follows: New York to Chicago, 18 hours; Chicago to Omaha, 11 hours; Omaha to Ogden, 26 hours; Ogden to Frisco, 24 hours. Total, 79 hours.

First Train Race Against Horses.

The first race in which an American railroad competed for a mail contract was run in 1838, between Philadelphia and New York. At that time the transportation of the mails between the two cities named was divided between the railroads and a chain of post-riders. Both the railroad and the post-riders covered the ninety miles between the Quaker City and Gotham in about six hours.

There was great rivalry between the

carriers, nevertheless, each trying to beat the other's time. Finally the men that operated the post-rider route went to the Postmaster-General in Washington—Amos Kendall, of President Van Buren's Cabinet—and declared that they believed they could beat the railroad's time by an hour, reducing the running time between Philadelphia and New York to five hours.

They wanted to know whether they would be given a contract to carry all the mail if they succeeded in reducing the time. The Postmaster-General made no comment until he consulted with the railroad officials. Then he said to both railroads:

"I'll not only put you to the test, but I will pay five hundred dollars to the first carrier that covers the route in five hours."

The result was that the competing carriers made preparations for the first actual race for a mail contract recorded in railroad history. This race took place December 9, 1838.

The post-riders put on extra relays, assigned their best men to the work, and the race was run on their side with all the dash and breathless haste common to the pony express of the West. Contrary to their expectations, however, the post-riders gained only fifteen minutes, consuming 5 hours and 45 minutes on the run.

Maintained a Five-Hour Schedule.

On the other hand, the railroad made a splendid showing. It tightened up its schedule and promised extra pay to the train crew. The result was that the railroad delivered a message in New York from President Van Buren within five hours from the time it received the document in Philadelphia. The railroad won the race, earned the Postmaster-General's prize, and was given a contract on condition that it maintain the five-hour schedule permanently—the first contract of the kind awarded in the United States.

From that time through the years to 1884 nothing happened in the way of a race of sufficient importance to chronicle. In 1884, however, before the government entered into a permanent contract with the Union Pacific to carry the mail between Omaha and San Francisco, the question arose as to which road running between Chicago and Omaha should get the contract to carry the mail over that important link in the transcontinental service.

In that year President Arthur's Postmaster-General, Frank Hatton, offered the Northwestern Railroad the first contract for carrying the transcontinental mail between Chicago and Omaha.

The Northwestern declined the contract on the ground that carrying the Western mails was at that time a losing proposition for the railroads. The contract was then offered to the Burlington on condition that it make the run in ten minutes less than sixteen hours and maintained that schedule for a week. The Burlington's officials accepted the offer, knowing that it meant an average speed of only thirty-one miles an hour.

Accordingly, one cold, bleak March morning, at three o'clock, a Burlington train pulled out of Chicago to make the first run to Omaha within the required 15 hours and 50 minutes. That race with Father Time was the first race ever run for a transcontinental contract. And the Burlington beat Father Time, arriving at Omaha fifteen minutes ahead of schedule.

That was, too, the first exclusive fast mail train that ever left Chicago for the West. It consisted of one mail car, one baggage car half filled with Chicago newspapers of that morning, and a private car carrying officials of the road.

Day after day for seven days, in accordance with the government's stipulation that the schedule should be maintained for a week straight, the race was repeated, ending with the

Burlington so easily a winner that Postmaster-General Haddon promptly ordered the schedule shortened, an order with which the Burlington as promptly complied.

From year to year after that the government ordered a reduction of the time between Chicago and Omaha, a few minutes each time, until in 1899 the time had been reduced to eleven hours. And the amount of mail carried had grown to such an enormous extent that the contract was worth $750,000.

After the great races of 1899 all the roads in the country running fast mail trains so tightened their schedules that there was no longer any excuse for races either between trains or with Father Time. Since then the race for the mail contract, if race it can be called, has been solely a financial one—the matching of sums of money.

For example, the Sault Ste. Marie Railroad, in 1910, held the contract for the fast mail between St. Paul and the Canadian line; but the government found that the Great Northern, by reason of a shorter haul and other advantageous conditions, could carry the mail between the points named for $4,000 less yearly than was paid to the Sault Ste. Marie Railroad. In all such cases the government gives the railroad already holding the contract a chance to meet the lower figure named by the competing road.

If the road already holding the contract agrees to carry the mail at the lower figure it retains the contract. Therefore, when the Sault Ste. lowered its figure $4,000 to meet the Great Northern's figure the Sault Ste. Marie retained the contract.

Again, the Milwaukee Road held the contract for the fast mail between Chicago and St. Paul. It was found that the Northwestern could handle the same business for $62,000 less than the government was paying the Milwaukee. The Milwaukee promptly deducted $62,000 from its bill to the government and retained the contract.

STATE RAILWAYS NOT PERFECT.

An American Traveler Finds Much to Criticise After Investigating New Zealand's Government-Owned System.

BY W. D. HORNADAY.

IT has been popular to give glowing word-pictures of the wonderful success of the policy of government ownership of railways as practised in New Zealand. During the several weeks that I recently spent in that far-away dominion, I made a study of the railroad situation. I made the research with an absolutely unbiased mind, acting in the capacity of a journalist rather than a political economist.

I came to the conclusion that, measured from the standpoint of public service and based on American railway standards, the operation of the New Zealand Government Rail-

ways is not by any means a success, although, in many respects, conditions there are apparently well suited for the carrying out of the policy of government railroad ownership.

One of the things that is said to hamper the government-owned lines of New Zealand is the constant interference of men of more or less influence, who are forever seeking to promote their own political interests. I was cited an instance of this kind by one of the traffic officials of the system.

On the main trunk line between Wellington and Auckland, 426 miles, double daily express trains are operated. It has been the desire of the railway management ever since the inauguration of this service to make these through trains expresses in reality instead of only in name.

Nineteen Hours to Make the Run.

When the so-called fast trains were first put on they stopped only at such points as were absolutely necessary, and were able to make fairly good time. Gradually the schedule had to be lengthened because of the pressure that was brought to bear by the people of the different towns and communities along the route for the stopping of the trains at their respective places, until now nineteen hours are consumed in making the run between the two terminals.

The traffic department of the system strongly opposed the lengthening of the schedules, but the clamoring public knew where to carry its appeal in order to obtain the desired results.

Members of Parliament of the different districts along the line took up the cause of their constituents, and, through their influence upon the railway department of the government, overruled the good endeavors of the men who are really striving to make the express trains and other features of the government-owned system a credit to the dominion.

The Wellington - Auckland express trains perform now such local service that they can hardly be said to fulfil the mission that was originally intended.

Horse Races Given First Consideration.

One day I happened in the office of one of the large meat-packing plants when the manager of the concern called up a representative of the government railways, and requested that a number of freight-cars be set in on a certain side-track to carry a large shipment of sheep to the slaughtering pens.

"I am sorry," replied the railroad official, "but it will be impossible to comply with your request for cars for two or three days."

"Why not?" inquired the packing-house man.

"You see," answered the railroad representative, "there is a horse-race at a place on that division and we are using all our surplus motive-equipment to handle the crowds."

This meant that there were no locomotives available for moving the sheep. An expostulation on the part of the business man—who stood ready to give traffic to the road and who would suffer loss by the lack of prompt attention to his order for cars—was of no avail. He hung up the telephone receiver and, turning to me, said:

"There is an instance of what comes of government ownership of railways. We men who are trying to do business run up against things of this kind almost every day. But what can we do? There is no competing road; the politicians are running the government system and they have little regard for the interests that contribute most to its support. They are looking for votes. If it is a horse-race or some other sporting event, freight traffic must be hampered in order that the crowds of people, who perhaps never shipped a pound of freight over their lines, may be hauled to and fro at a cost that is well below

what it should be to make the railroad property a profitable enterprise!"

Many other shippers with whom I talked do not put the blame for poor freight service on the men who are at the head of the working departments of the system, but charge the bad management to Members of Parliament and other politicians who are alleged to be eternally meddling with its affairs.

From a physical standpoint, the New Zealand Government Railways impress one who is used to the standard-gage tracks, big locomotives, and cars of the United States transportation lines, as a toy.

Freight "Trucks" Carry Ten Tons.

Each freight-car ("truck") has a carrying capacity of eight to ten tons. There are a few cars of larger tonnage, but not many. The locomotives are correspondingly small, but they bustle around in the yards and make a big noise.

There is one apparent advantage in the smallness of the freight-cars. When it is desired to move them from place to place in the yards, if the distance is not too far, several men get behind and push them about. This, of course, lessens the need of yard locomotives. Many of the freight-cars are built without roofs. When loaded with goods that might be affected by rain, tarpaulins are thrown over them.

When the small tonnage of the equipment of the New Zealand railways is considered, it is remarkable what a large traffic in the aggregate is handled by the system. The total length of the lines open for traffic on the North and South Islands is 2,860 miles. They were constructed at an average cost of $55,265 per mile.

The total capital cost of the system is $158,056,100. The gross earnings for the year ending March 31, 1913, aggregated $19,855,010, and the expenses for the same period were $13,528,045. The net income was $6,326,965, which was 4.04 per cent of profit to the capital invested. The earnings per average mile for that year were $7,000, and the working expenses per average mile were $4,770. The net earnings per average mile were $2,230. The earnings per train-mile were $17.76. The net earnings per train-mile were $8.50. The total number of passengers carried during that year was 13,123,879. They yielded a considerably larger percentage of the total revenue than similar traffic in the United States.

Rush for "Window-Side" Seats.

The freight tonnage is classified as "goods tonnage" and "live-stock tonnage." Of the former there were handled 5,957,005 tons and of the latter 289,123 tons. The ton used there is the long ton of 2,240 pounds. The total train-mileage for the year was 9,016,224. The system owns 513 locomotives. 1,282 passenger-cars, and 19,515 freight-cars of different types.

The passenger accommodations are of a similar character to those on other English roads, but the comforts of the trains here are not as good as are to be found in England, Egypt, India, or even in Australia, which country has about as jumbled-up a system of government-owned railways as is to be found in any other part of the world.

Day travel in New Zealand on ordinary passenger-trains is not so bad, but even then there is always a rush and a jam for the window-side seats in the different shut-in compartments, and other annoyances and inconveniences that are not met with when traveling in the United States.

For carrying on gossip and bidding good-by at the stations, New Zealand and all other English cars of the compartment type are admirably suited. The windows are low and spacious; or, perhaps, it is the extraordinary height to which the platforms are raised which enables one to stand out-

side and poke his head into the car and gossip with the occupants to his heart's content.

It is the night traveling that is full of discomforts. On the so-called main-trunk express trains running between Wellington and Auckland sleeping-cars of about at primitive type as could well be imagined are hauled. These cars are divided into compartments with two berths, lower and upper, to each little room.

"Sleepers" Poor; but Meals Good.

"Making down" a berth consists of putting a blanket over the hard, narrow seat and throwing on a pillow and necessary top covering. The berths run crosswise of the car and afford very little rest for the weary traveler. Dining cars are run on the principal trains, and meals that excel in quantity and quality those that are served *table d'hôte* on dining-cars in the United States may be had for fifty cents.

The passenger-train service upon the main lines in both the North and South Island is frequent, but on most of the branch lines the trains are run somewhat irregularly.

There are two classes of passenger accommodations — first and second. While the difference between the two is considerable, the second class is largely favored because of its relative cheapness. About eighty per cent of the passenger travel is second class. The first-class fare averages about three cents a mile and the second-class about two cents. There is no reduction where round-trip tickets are purchased.

There has been agitation for many years in favor of a graduated passenger fare that would grow relatively less the greater distance traveled.

The object of this proposed scheme was to encourage the settling up of the more remote localities along the different railway lines. The railway management, however, has successfully fought this proposition, until it is now believed to be no longer a live question.

Besides the straight-mileage tickets, there are many other kinds of tickets that may be purchased for travelers over the government railways. In keeping with the general practise of the government to encourage tourists to visit New Zealand, a remarkably cheap rate of travel may be obtained by the purchase of what are known as tourist excursion tickets.

Tickets Sold in Many Forms.

These tickets are available for any one—home people or visitors from foreign lands. For $50 one may purchase a ticket that will permit him to travel over any of the railways in the dominion, and as many times as he may desire over all of the lines for a period of seven weeks. For $30 a ticket may be purchased good over all the lines in the North Island for a period of four weeks. The same amount entitles the holder to travel for four weeks over the lines in the South Island.

These tickets are not transferable. They may be extended for a period not exceeding four weeks on payment of $7.50 a week or portion of a week. Other reduced passenger rates are obtainable by the purchase of what are known as holiday excursion tickets, New Zealand military force tickets, public-school cadet tickets, navy recruit tickets, school boarders' tickets, season tickets, commutation tickets, newspaper reporters' tickets, newsboys' season tickets, apprentices', teachers', articled clerks' and young-person-in-employment tickets.

School season tickets, school parties, friendly societies, football, cricket, bowling teams, golf, rowing and rifle clubs and other pleasure parties' tickets; theatrical concerts and circus companies' tickets, railway employees' tickets are a few of the other kinds.

Free railway transportation available of distances not to exceed fifty miles are issued to pupils not over

nineteen years old attending the public primary schools from the nearest railway station to the station in the vicinity of the nearest school, and also to pupils in the country who hold scholarships good at district high schools or secondary schools, and to a few other classes of school children who live in rural districts.

It was in 1860 that the provincial government of Canterbury, in the South Island, began the construction of the first railway in New Zealand. It was completed between Christchurch and the port of Lyttleton, and was opened for traffic December 1, 1867.

On this short line is a tunnel one and one-half miles long through the hills. Government railroad building spread to other provinces and several lines were constructed by 1876, when the provinces were abolished and the general government took over the railroads and other public works.

Originally there was a difference in the gages of the railways of the different provinces, but these were all made uniform by the adoption of three feet six inches as the width of all tracks of the government system.

One of the things that contribute very much to the problem of successfully operating the New Zealand government railways is the fact that the main-trunk lines of the North and South Islands follow so close to the coast as to be in direct competition with the several lines of steamships that ply between Auckland, Wellington, Lyttleton, Dunedin, Bluff, and other ports.

It is stated that the railways were built into and through territories where land-owners of more or less political influence would derive direct benefits, instead of following routes farther toward the interior of the two islands and running out feeders to the coast points and into districts that are capable of agricultural and pastoral development.

The last of the more important private-owned railways in New Zealand—the Wellington and Manawatu Railway Company—passed into the hands of the government in 1909. It was eighty-four miles long and ran between Wellington and Longburn. It is an important connecting link in the government's main-trunk line between Wellington and Auckland.

Another private-built railway, the New Zealand Midland, seventy-nine miles long, which was constructed by an English syndicate under a land-grant contract with the government, which was purchased and merged into the New Zealand government railways in 1895. The main-trunk line in the South Island is still unfinished.

The only private-owned railways in New Zealand at this time are a few short lines, aggregating twenty-nine miles of track used for industrial purposes.

WHEN BRITISH ROADS PAID "DEODANDS."

IN the early days of railways in England, what was called a "deodand" was inflicted on railway companies for the purpose of aiding people who suffered from railway accidents. It is related that on the Great Western Railway of England an accident, due to a landslide, happened, and eight passengers were killed. The coroner's jury returned a verdict of accidental death, and at the same time inflicted a deodand of 100 pounds to be levied upon the locomotive and tender. This practise of levying a deodand in cases of railway accidents resulting in loss of life, affords a curious illustration of how seldom accidents causing loss of life must have happened before the railway came. The mere mention of it now as ever having existed sounds almost as strange and unreal as would an assertion that the corporations had in their earlier days been in the habit of settling their differences by wager of battle. Like the wager of battle, the deodand was a feature of English common law derived from the feudal period. It did not exist in Scot or Welsh law.—*Railway and Locomotive Engineering.*

The Stolen Signal.

BY GEORGE BARON HUBBARD.

A BOOK-LENGTH RAILROAD NOVEL COMPLETE IN THIS ISSUE.

CHAPTER I.

An Unruly Foreman.

"STOP that!" The sharp command rang out above the creak and rattle of chains, the clang of metal on metal, the crashing of rock and débris, the shrilling of locomotive whistles—the thousand and one noises of the construction camp.

But, instead of obeying, Big Pete drew back his foot, clad in its heavy, thick-soled boot, and aimed a vicious kick at the prostrate, cringing form of the little Italian.

The next instant a muscular hand seized the foreman's shoulder and swung him around with such force that he almost lost his balance, to face a pair of blazing blue eyes.

"What's that for?" he demanded. "What the—"

"I'll ask the questions, if you please!" John Stevens cut short the sentence. "What do you mean by abusing that man?"

The foreman shifted his quid of tobacco from one cheek to the other and shrugged his shoulders.

"If it's any o' your business, I don't mind tellin' you that he give me some of his lip, an' I told him to get his time an' clear out. He was a little too slow about goin' to suit me, so—"

"So you struck at him and kicked him—a man not half your size!" finished Stevens sternly. "I can't say I think much of your methods, Camm. Now, kindly tell me what caused him to give you 'some of his lip.'"

The foreman looked as if he were about to refuse further information, then thought better of it.

"He didn't show up for work until one o'clock. When I called him down, he give me some cock-an'-a-bull story about his kid, an' I handed him one for lyin'. He got fresh—"

"Mr. Stevens, you-a no believe?" cried the little Italian. He had picked himself up from the ground and now ran forward. "My wife, she-a die. Da bambino, he-a gotta no one. I stay wi' him this-a morn'. If I-a lose-a ma job he starve—he no eat! Oh, I no canna lose-a da job—" The excited voice trailed off into a torrent of unintelligible broken English.

"Hold on, Angelo!" Stevens waved the foreman aside. "Tell me about it; I want to understand clearly," he said in Italian.

An expression of incredulous joy overspread the laborer's face at hearing himself addressed in his own language. With many gestures he explained that his wife had died at dawn that day, and he had been obliged to stay at home until he could get some one to look after the motherless baby during the daytime.

He had no money; every cent of his wages had gone to pay doctor's bills and buy food for the sick woman; if he were discharged, what would become of the baby?

Stevens listened in silence until the

pathetic story was ended. Then he turned to the foreman.

"You knew that Angelo's wife died to-day?" he asked in a quiet tone that was belied by the tightened lips. "He told you why he did not report on time this morning?"

Big Pete nodded indifferently.

"Sure he did. But they'll all lie as fast as a horse can trot. He's no good, anyhow—nothin' but a lazy, shiftless dago. He don't earn his keep. An' I—"

"Angelo is neither lazy nor shiftless," interrupted Stevens. "He's sober, industrious, and hard-working, as you know perfectly well. And you also know as well as I do that he is speaking the truth.

"The trouble with you, Camm, is that you're a cowardly brute. You treat the men like dogs, and lose no opportunity of bullying them. Instead of showing a little decent human sympathy for this poor fellow, you act like a beast, and abuse him outrageously when he is too small to defend himself against you.

"Now"—and his voice took on a ringing note—"I want this sort of thing stopped—*stopped!* Do you understand? I'll have no *Simon Legree* methods used in this camp while I'm in charge! Angelo is to keep his job, and he is not to be docked for the time he lost this morning. You're to keep away from him and let him alone. If I hear of any more of this sort of thing, you and I will have a reckoning that you won't like. Get me?"

A dull red flush had spread over Big Pete's heavy-jowled face.

"The trouble with *you,* Mr. Stevens, is that you don't know enough to mind your own business!" he returned insolently. "I'm foreman of this gang, an' I'll run it without any hornin' in from you. What I say goes—see? An' you keep your face out of it, if you don't want your beauty spoiled.

"I've stood about all o' your nonsense that I mean to. Just because you're a dude from the city, you think you can come here an' learn me how to boss my job. Well, you're fooled—see?"

"Is that so?" drawled Stevens. "Well, suppose you go and get your time—and then move out of camp. We'll see who's fooled. Start now!"

Big Pete laughed; he did not offer to move.

"You're fired—understand?" said Stevens. "Get out of here, and get out quick."

The foreman stepped forward, his red face convulsed with rage. He half raised his fist and shook it within an inch of Stevens's nose.

Had Pete Camm not taken a couple of drinks more than was good for him the night before, supplementing them during the course of the morning with several others, it is unlikely that he would have thrown common sense and discretion to the winds. As it was, however, his excesses had put an ugly edge on his never very equable temper, and Stevens's interference in his brutal abuse of the unfortunate Italian had thrown him into a blind, unreasoning rage.

He was made the more reckless by the knowledge that the men about had stopped work and were interested spectators of the scene; they had gathered the import, even if they had not understood the exact words of the rebuke administered by the superintendent; and a rebuke was gall and wormwood to Big Pete Camm.

"Who do you think you are?" he snarled. "You shut up an' clear out, or I'll put your face through the back of your neck, you—"

But his opinion of John Stevens was destined to be expressed no further than by a couple of choice epithets. The young superintendent's arm shot out straight from the shoulder; there was a sharp impact, and Big Pete Camm lay stretched at full length on the muddy ground.

He stumbled to his feet, mouthing curses and imprecations, and dashed at Stevens like a charging bull. Deftly

the young man avoided the rush, blocking a savage lunge with his right fist and countering with his left.

Again Big Pete went down; and this time he did not get up. Like all bullies, he had no relish for a fight when the advantage was not all on his own side.

"Well, have you had enough," inquired Stevens, "or do you want some more?" There was no reply, and he continued: "I'll give you just fifteen minutes to collect your traps, get your money, and leave camp. It's half past one now. If you're here after a quarter to two, you know what to expect."

He turned on his heel, and with a few crisp words dispersed the little crowd of gaping, grinning laborers, who scattered about their various duties.

At the expiration of the specified time he returned to the spot where he had left the foreman, but Big Pete had vanished.

Stevens caught a glimpse of the heavy, slouching figure disappearing along the wagon road that led in the direction of the nearest town, twenty miles east.

"Serve him right if he has to foot it every step of the way!" muttered the young man to himself. "I ought to have fired him long ago."

It was characteristic of John Stevens that he dismissed Camm from his thoughts as swiftly as he had dismissed him from the construction gang. Before two o'clock a new foreman was in charge of the laborers, and the work was proceeding exactly as if no interruption had occurred.

CHAPTER II.

An Ax in the Grinding.

WHEN the San Francisco and New York Railroad acquired a new general manager in the person of Charles Chatterson, late president of a somnolent Western line which had been taken over by and amalgamated with the great transcontinental system, a considerable number of axes were brought out to be ground.

A very large stockholder in the road of which he had been the head, Mr. Chatterson had stipulated for the general managership of the San Francisco and New York as his own particular perquisite. Immediately on assuming his new duties he had made a careful canvass of minor offices, with a view to replacing their incumbents with satellites and adherents of his own.

Unfortunately for him, the principal posts were occupied by men who had demonstrated their fitness to hold them; and when it came to a question of providing a place for his nephew, Mr. Chatterson found himself somewhat at a loss.

The nephew in question had expressed a preference for the position of Eastern superintendent, since, under the close supervision of his uncle, he would be able, in a measure, to conceal some of his very obvious deficiencies; but John Stevens was far from being incompetent.

To remove him and supplant him with a man of whose ability there was some doubt, even in his own placid mind, was a proceeding at which General Manager Chatterson hesitated.

The substitution required finesse. Some reasonable or plausible excuse must be found. Mr. Chatterson gave considerable thought to the problem before he finally hit on what promised to be an admirable solution.

For some little time the San Francisco and New York had had under consideration a project for building a cut-off which would eliminate a long and troublesome grade and shorten the running time between New York City and Chicago by the better part of an hour.

The scheme had its inception in the brain of John Stevens. Though costly and liberally strewn with stumbling-blocks, he argued that it was practicable. Should it be carried to a successful issue, the San Francisco and

New York would obtain a substantial advantage over its principal rival and competitor, the Coast and Coast Railroad.

Stevens had set himself to master the engineering difficulties; and at about the time when Chatterson assumed the general managership of the S. F. and N. Y., the principal ones had been overcome.

But the directors were cautious. They hesitated to take a step which would plunge the road into what they felt might prove to be but an expensive experiment. One or two were even openly hostile; and Stevens, therefore, was surprised and delighted when the new general manager not only expressed hearty approval, but threw himself heart and soul into the task of breaking down the opposition.

That he would be put in charge of the work Stevens had no idea; but General Manager Chatterson contended that so long as he was the originator of the project, he was the logical man to carry it out. Accordingly he was transferred from the New York offices to the superintendency of the new short line.

And then, as Mr. Chatterson had shrewdly foreseen from the beginning, it was a comparatively simple matter to advance Mr. Marmaduke Robinson to the coveted position of Eastern superintendent — "temporarily"; it being tacitly understood (though not by the astute Chatterson) that as soon as the short line was built and in operation, Stevens would return to his regular duties.

Under Stevens's competent and enthusiastic direction, the construction work had been going forward steadily. Another month or six weeks would see its completion, unless some unforeseen complications arose.

Stevens had been indefatigable; he was here, there, and everywhere. Difficulties were encountered, only to be surmounted by his skill and ingenuity. His indomitable energy never failed. From daylight until dark he was busy, planning, executing, encouraging, and heartening the laborers.

He was exceedingly popular among them, liked, admired and respected by all, with the exception of Big Pete Camm, of whose slave-driver tactics he strongly disapproved, and with whom he had come into frequent collision.

The man was a veritable thorn in his side, but he undoubtedly knew his business; and Stevens had patiently avoided an open breach with him until his heartless and brutal treatment of Angelo, the little Italian, had snapped the last strand of tolerance.

Now that the fellow was actually gone, however, Stevens regretted that he had put up with him for so long.

The amount of work he had gotten out of the laborers had been secured because they stood in actual physical dread of him.

He enforced his orders by sheer brute dominion, which was all very well from his point of view, perhaps, but which was not to be compared, from the standpoint of efficiency, with a discipline that, although far from being lax, yet took into consideration the fact that even the lowest ditch-digger was a man, and entitled to be treated as a man.

It was with much satisfaction, therefore, that Stevens observed the willingness and energy with which the men bent their backs to their tasks after the burly foreman's departure from the camp. He was anxious to push the work as fast as possible, for more reasons than one; and anything which tended to expedite progress was a source of gratification to him.

Absorbed and interested as he was, he wanted to get through and get back to his home, from which he was separated by over two hundred miles. There was something at home which, he had been informed, needed his attention; and although he had been unable to find out just what the "something" was, its existence made him uneasy.

When, close to midnight, he added the last note to the memoranda he had made for the next day, he drew from his coat-pocket a letter which had been delivered to him that morning, and which he had had time only to glance at hastily. It was dated the previous day, and the envelope bore the New York postmark. The letter ran:

DEAR JACK:

Sorry, but so far I've not been able to dig up any further information. I've pried and nosed around as much as I could without arousing suspicion; but except for that mysterious whisper of which I wrote you six weeks or more ago, I've heard absolutely nothing.

Now, as you know, I'm no Padlock Jones. My advice is that if you're not absolutely nailed down on the job, you'll take a run in to town over the week-end and do a little sleuthing where it will do the most good. There do be doin's, of the exact nature of which I am at present in the dark—and likely to remain so, I expect, my zealous efforts to the contrary notwithstanding.

So you'd better toddle home and spike whatever guns may be loaded. I don't want to be guilty of yelling, "Wolf! Wolf!" but I seem to smell a mice, and I wouldn't bet a million dollars that the dear little furry creature isn't nibbling around your pet and particular cheese. You get me?

The latch-string shall be left out for you, old hoss, and there's a royal welcome waiting you, from

Y'rs,

SANDY.

Surely a sufficiently vague letter! But its very vagueness made it the more disquieting. Stevens knew the writer well enough to be certain that it, or the one which had preceded it, would never have been sent unless there had been reasonable grounds for supposing that there were "doin's."

But he was "absolutely nailed down on the job," to use Sandy's phraseology. For a month, at least, he would not be able to take time off for a trip to the city without seriously handicapping the work at the construction camp. Too many important details had to be looked after, and there was no one to whom he could conscientiously entrust them.

It followed, then, that the "doin's" must go on for the present without interference from him. In all probability, Sandy had discovered a mare's nest, anyway. Some one had been playing a practical joke on him, and he had jumped to the conclusion that something might happen to prevent his friend from reaching the goal toward which he had plodded for years.

For the better part of an hour Stevens sat by the window of his room, revolving the matter in his mind and trying to arrive at some conclusion. Then, with a slight shrug, he got up, undressed, and climbed into bed.

On the bare chance that something might be menacing his personal interests in the city, he could not jeopardize those of the railroad.

He had been given work to do, and he must do it.

He thumped and punched his hard pillow in a vain effort to make it less uncomfortable and composed himself for sleep.

He had just fallen into a pleasant doze when some one rapped on his door, and a rustling sound indicated that a piece of paper was being pushed along the bare boards of the floor.

"Telegram, Mr. Stevens," said the voice of his landlord. "It just come, an' I thought it might be important."

By the light of a smoky oil lamp Stevens read the message written on the sheet of yellow paper:

Collins will relieve you Wednesday morning. — CHARLES CHATTERSON.

CHAPTER III.

"Mischief Afoot!"

MR. CHARLES CHATTERSON, general manager of the San Francisco and New York Railroad, tilted his swivel-chair back as far as it would go, rested his feet on the half

open drawer of his desk, and stuck his thumbs into his waistcoat pockets.

He was rather below medium height and chunkily built, with ample girth of waist, short legs and arms, and fat hands with chubby fingers. His gray hair grew sparsely on his head, and one lock was carefully brushed crosswise to cover an oval bald spot which increased with distressing rapidity.

In moments of mental concentration he had a trick of passing one hand rapidly over his crown several times in succession, following from root to tip the lock of hair, which he fondly believed made him look younger than his years. He sported "mutton-chop" whiskers.

"The question, Duke," he said slowly, "is not whether it will do us any good, but whether it would have done us any harm. I have settled that to my own satisfaction. Thousands of safety devices have been invented, and exceedingly few of them have proved practicable.

"So far as I was able to determine from my examinations of these drawings and models, this invention presented no extraordinary features. What did you think?"

The young man in the ultra-smart garments who sat beside the big desk shook his head.

"I really couldn't say, Uncle Charlie," he confessed. "All I know is what I told you in the beginning—that Stevens spent a good deal of time on it—every minute of his leisure, apparently—and he's pretty practical, you know."

Chatterson frowned.

"I do know. He's too confoundedly practical to be an inventor. That is why I thought it as well to be on the safe side. If he thought enough of this thing to expend so much time and labor on it, there was no use in our taking chances."

"And," he paused a moment to give his words their full dramatic effect, "subsequent developments have proven that I was right. There *is* something in it! Just how much I am not now prepared to say, but the indications are that he stumbled upon a really valuable idea.

"I had Flint send him a telegram this afternoon, and Collins will relieve him to-morrow morning. He is to report to me here on Thursday—the day after to-morrow. But there are two or three things to be settled before he arrives."

Chatterson thought a moment, still frowning. Then:

"See Burley in your office," he directed, "and get from him the notes and copies of the drawings you made. Take them home with you to-night and modify them somewhat—any simple alteration will do—and then bring the modifications to me and destroy the others."

"That's an awful job, Uncle Charlie," objected the young man, preparing to go. "What the use of it all, anyway? I made 'em once, and nearly died doing it. I don't know anything about drawing. What good will it do?"

The general manager was quite willing to explain. He loved the sound of his own voice; and his ability and readiness to talk at length—more, his actual insistence upon it—had earned for him the soubriquet of "Chatty Charlie."

His nephew's question gave him a splendid opportunity, and he seized it forthwith. For fully ten minutes he talked without interruption while Marmaduke Robinson, bitterly regretting the query which had opened the way for a display of Chatterson's expositional powers, listened half-heartedly or not at all to an exhaustive recapitulation of facts and potentialities with which he was already quite familiar.

The telephone bell was a welcome relief.

"So you see," finished the general manager, stretching out his hand for the instrument, "it behooves the young gentleman to accept our offer. If he refuses to be sensible and insists on

acting contrary to his own best interests, we have a way of bringing him to his senses.

"Not that I should like to be forced to use it," he added thoughtfully, while the telephone again clamored noisily for attention, "but it will serve at a crisis. It has been employed before this with entire success. You know to what I refer, of course. And I have another plan about which I have not spoken to you, although I fully intended doing so."

Marmaduke Robinson was too wise to ask what this plan might be. He gathered up his hat, gloves and stick and made for the door.

"Remember," Chatterson admonished him, "Burley is to understand that the original idea was yours and yours alone, and that I—*I*, mind—require the utmost secrecy to be observed now as heretofore. I shall not use him unless it becomes absolutely necessary, and I do not think that it will. Stevens is only human. But Burley is not to talk to any one of any phase of this matter. Make that clear to him."

Burley, a thin, gray little man, with stooping shoulders and dull blue eyes, received Robinson's orders in silence.

Only twice did he open his lips during the interview, once to utter a brief, "Yes, sir," and once to ask, as he pointed to the papers he had brought, "This was entirely your own idea, sir?"

"Entirely!" snapped Marmaduke. "Is there anything else you want to know?"

He glared at Burley as if defying him to ask for further information. The little gray man meekly shook his head.

Once outside Robinson's office, however, Burley's manner altered. A change came over his face. The dull blue eyes brightened and became keen and restless; his thin lips twitched.

He returned to his own desk by a circuitous route that took him past a small room in which a very tall, light-haired young man sat poring over a mass of involved plans and specifications.

Slackening his steps, Burley paused in the doorway, casting a cautious glance about him. There was no one in sight.

"Everett! There's more mischief afoot! Send for Stevens—*now!*"

The sibilant whisper reached the ears for which it was intended. Young Everett looked up quickly, but Burley had dodged out of the doorway.

"What's that? Who spoke to me?" Everett pushed back his chair and in two strides reached the door.

The corridor was deserted. Only a faint sound, as of swiftly retreating footsteps, was to be heard. Slowly Everett went back to his desk.

"Now who the deuce?" he muttered. "That's the second time. 'Mischief afoot,' eh? If I weren't such a dummy, I'd have gotten to the bottom of this long ago.

"'Mischief afoot,'" he repeated musingly. "Well, if there really is, I'll bet a bean that Marmy Robinson opened the box and let it out. Now, how in the name of my grandfather's wig am I going to make Jack believe this is serious?"

CHAPTER IV.

Suspicions and Speculations.

"THERE it is, Sandy, and here I am." John Stevens tossed the crumpled telegram on the table and reached for the tobacco jar. "What do you deduce from it?"

Everett read the message through twice, but he could deduce nothing much from it and said so.

"Perhaps Chatty Charlie was pining to see your manly form about the offices again," he suggested. "Can't think of any other reason why he should haul you off the job at the eleventh hour, just when everything is going swimmingly, unless he wants to swipe the credit for putting the thing through.

"But I'm mighty glad you're here, whatever led him to send for you. Nothing I could say to you seemed to have any effect; and I had another mysterious warning yesterday afternoon—a more urgent one this time."

Stevens paused in the act of applying a match to the tobacco in his pipe.

"The deuce you did!" he said.

"The deuce I did," nodded Everett. "Just the same way as I wrote you before. I was up to the tips of my pearly ears in work, when all of a sudden some one stage-whispers for me to send for you quick. I jumped for the door, but there was nobody there. Regular Nick Carter situation.

"I was going to write you this morning, when I got your wire, saying that Collins had been sent to relieve you. Do you suppose there could be any connection between the two?"

Stevens settled back in his chair, a little frown of perplexity corrugating his forehead.

"Just let me think a moment," he said. "That very same idea had just occurred to me."

For a little while there was silence in the room, broken only by the tick of the mission clock on the mantel and the noises of the street which filtered through the open window.

A casual observer, looking at the two men as they sat one on either side of the table in the sitting room they shared, would have said that they could have nothing in common.

Everett stood six feet, four inches, and weighed less than a hundred and fifty pounds. His head, crowned by a thick thatch of unruly, straw-colored hair, which persisted in sticking out at all angles, was set on a scrawny neck; his nose was snub; his ears large and protruding; his mouth wide and straight-lipped. His eyes, really fine in shape and dark brown in color, were the only presentable feature he possessed. They looked from his long, freckle-mottled face with an expression of mournful meekness that was entirely deceptive.

For there was nothing either mournful or meek about Alexander Hamilton Everett, generally known as "Sandy." More than one would-be bully had been misled, to his own undoing, by those wistful brown orbs, and more than one romantic damsel had sighed regretfully because they were set in a misfit face.

But their owner cared for neither bully nor damsel. The one he punched, scientifically and thoroughly; the other he avoided as a pestilence. Jolly, talkative, a genial good fellow among men, in the presence of a woman Sandy Everett would have made a Red Indian seem positively garrulous by contrast. He feared girls as he feared nothing else on earth, and a pretty simpering school miss could reduce him to a state of stammering imbecility in two seconds.

John Stevens, on the contrary, was extremely popular with both sexes. A little under six feet, well set up, broad-shouldered, deep-chested, he had a frank, straightforward way about him, coupled with a singular charm of manner that was, in itself, a passport to friendship and a whole manual of recommendation.

Yet he was not given to forming many friendships among either men or women. He had a pleasant word and a cheery greeting for all whom he knew, but he preferred solitude to the society of those whom he termed "little people"—little not in body but in mind.

But in no sense of the word was he a prig. He was simply a normal young man of thirty-two, with a mind above the average and a nice sense of discrimination which enabled him to look below the surface and choose his associates for something more substantial than their face value.

Thus it was that the pretty, empty-headed young women who lived in the suburb where he and Sandy boarded, and who would fain have added him to their circle of admirers, sighed in vain, and thus it was that ever since

their "tech" days he had had but one chum, comrade and companion—Sandy Everett, self-styled "the human gargoyle."

Each had chosen the other, not for what he looked like but for what he was, and every year that passed cemented their friendship into a stronger and finer tie.

Neither had been in love—not since the age of eighteen. The work they had chosen demanded the greater part of their time and attention. Everett instantly fled at sight of a prepossessing member of the opposite sex, leaving the field to Stevens who was as pleasant and friendly as possible when he happened to meet a girl and who promptly forgot all about her as soon as her back was turned.

For three years he had had no time for girls. Every minute of his leisure he had devoted to the perfection of an invention of which he had thought and dreamed ever since his early twenties, and to which Everett inelegantly alluded as his "pet and particular cheese."

CHAPTER V.

Pieces in the Puzzle.

"SO far as I'm able to make out, Sandy," said Stevens, "all we have to go upon is this: On two separate occasions, some one—identity unknown—has come to the door of your office and informed you that there was 'mischief afoot' and that you should send for me. He thoughtfully neglected to state the nature of the mischief, or just where it was tripping the light fantastic.

"You investigated, but were able to learn nothing. Coincidently with the last appearance of this disembodied voice, I get a telegram from the g. m. announcing that I am to be relieved immediately as superintendent of the short line, and summoning me to the sanctum.

"That's all—absolutely all that we *know!* Now what, if anything, do you suspect?"

"Why don't you say 'who, if any one,' instead of 'what if anything'?" inquired Sandy. "That would be nearer the mark. To tell the truth, Jack, I knew you'd think my suspicions were so wild and improbable that I was afraid to write them to you. But I might as well tell you, and then you can go ahead and call me a wild ass of the desert—as you undoubtedly will. I'm prepared for it and resigned to it, but I've got a few more things to add to the list since yesterday."

He leaned back and crossed one leg over the arm of his chair, swinging his foot slowly back and forth.

"In the first place, Jack," he continued, "it was common talk around the offices that Marmy Robinson wanted your old job as eastern superintendent and had made up his mind to get it, only Chatterson couldn't see how you were going to be ousted when you kept right along delivering the goods.

"The short-line scheme gave him a chance to pry you loose temporarily, and he grabs it. You fall for it, smilingly, unsuspectingly, and shove it along until it's about done. Six weeks more ought to see the end of your work there — two months at longest.

"That means that Marmy will have to crawl out of his comfy berth and go job hunting again, which wouldn't suit his book a little bit. Time is getting short, so they put their heads together. Then you get this wire recalling you.

"You mark my words, son, they've trumped up some nonsense or other with which they'll try to worry you. That's the opinion of your humble servant—and, incidentally, of Bert Collins. He didn't like the idea of relieving you much, and he said so, right out in meetin'."

"But," objected Stevens, "what has all this to do with my signal?"

"I'm coming to that. But, before I arrive, did anything, great or small,

happen at the camp that they could give you a wigging for—anything that would give Chatty a loophole to fire through?"

Stevens shook his head.

"Not a thing. On the contrary, I got a personal letter from President Mercer the other day commending me for the way I was handling the job. I haven't had an ounce of trouble, except with that surly brute, Pete Camm, and he doesn't count."

"S'far, s'good," said Sandy. "We will leave that for the present. You'll know in the morning, anyway, so there's no use in getting a headache over it to-night.

"For the rest, I discovered recently, for the first time, that your desk and things have been moved to another office, away down at the end of a corridor, and that Marmy is in full possession of your old diggings. Can't say just how long ago the move took place, but I *can* say that I met Marmy coming out of the cubby-hole where your traps are twice, and he didn't seem particularly elated at the encounter either time.

"He has been in solemn conference with Burley and kept him working like a hind shack on a mixed freight. This afternoon I went by the door of your old office, where Marmy now reigns supreme, and a gust of wind blew a paper off his desk. It fell on the floor, and Flint, who was inside, picked it up, but not before I got a look at it.

"Jack," and Everett's voice was very earnest, "there was a sectional drawing of it, and I'd be willing to take my oath it was a cross-section of your automatic safety signal, or a copy of it!"

"No!" exclaimed Stevens in dismay.

Everett nodded his head solemnly.

"Fact! Well, you can bet that set me thinking pretty hard. And when I went back to my desk, the first thing I knew I heard that whisper again—'mischief afoot!' Well, if Marmy Robinson didn't fit it out with gum shoes, I'm a Dutchman!"

He tapped the bowl of his pipe sharply against the table, and dumped the ashes into the brass jar that served as a catch-all.

"You've got no idea who the man is—I assume it *was* a man—who spoke to you?" asked Stevens.

"Not one in the world. Some one who felt pretty friendly toward you, probably, but who didn't have nerve enough to disclose his identity. But it was the same chap who warned me six weeks ago to send for you. I tell you, Jack"—with growing excitement—"Marmy is up to some skullduggery and his precious uncle knows all about it, if he didn't put him up to it in the beginning!"

"You may be right, Sandy," Stevens said slowly. "And then again, you may not. But we'll know to-morrow morning—this morning, rather," glancing at the clock. "It's after twelve. Me for bed."

In his own room, he rapidly reviewed what Everett had told him. On the face of it, the whole thing looked absurd. It was scarcely within the bounds of possibility, not to say probability, that anything could have happened to the models and drawings he had left in his desk at the office.

The desk was for his personal use entirely. He had left it carefully and securely locked; and while he had not made a strict secret of the fact that he had been working on an invention, he had not discussed it with, or even so much as mentioned it to any one save Everett.

It might be awkward for him if some unscrupulous person had learned of the existence of those things in the desk and gained an inkling of their potential value; but it would be nothing more. Suppose an attempt *had* been made to pirate his idea? Unknown to any one, he had already applied for a patent, and so he was entirely protected.

The knowledge of that reassured

him; yet it was with an uneasy sense of impending disaster that he finally dropped off to sleep.

CHAPTER VI.

Something Is Hidden.

"MR. CHATTERSON would like to have you come to his office without delay, Mr. Stevens."

Stevens paused in surprise, with one hand grasping the knob of his office door. Here was a phenomenon. The general manager had never before been known to arrive at his office before ten o'clock in the morning; his private secretary usually put in an appearance less than half an hour earlier.

Yet here it was barely eight o'clock, and both Flint and Chatterson were on hand!

"Very well. I hope I haven't kept him waiting," remarked Stevens with gentle sarcasm, which was entirely lost on the dapper young secretary, whose never more than embryonic sense of humor had suffered complete atrophy in the years he had been associated with Charles Chatterson.

"If you will follow me now," he requested importantly.

"Certainly, if you think I am likely to get lost," Stevens agreed.

He walked along the corridor behind Flint, wondering as he did so how long guard had been kept over that office door.

The summons to the general manager, at the precise moment when he, Stevens, had been about to enter, certainly gave color to the theory that Chatterson had anticipated and been prepared for just such an early visit.

The general manager's greeting was tinged with just the correct amount of condescension. He looked up from the pile of papers on his big, flat-topped mahogany desk, rumbled, "Good morning, Mr. Stevens," and thrust a half dozen letters into Flint's hands with some brief directions about their disposal.

Stevens took a chair drawn up beside the desk and glanced about him. The room presented a far different aspect than it had worn during the incumbency of Mr. Chatterson's predecessor.

A handsome velvet carpet covered the floor; the plain, serviceable oak chairs had given place to fine mahogany, upholstered in tooled leather. The book-cases and filing cabinets were of the same expensive wood.

Several choice engravings and one or two really good paintings adorned the walls. Even the gold-mounted desk fittings rang the ornate note of sumptuousness.

It was a much more luxurious office than President Mercer himself occupied, and in comparison with it those of the minor officials of the road were bare and barren, indeed.

Stevens, recalling the environment in which Mr. Chatterson had spent his less prosperous days, bethought himself of a half-forgotten phrase he had heard in his boyhood: "How the apples do swim!"

Having finished his directions to Flint, Chatterson dismissed the secretary with a nod, removed his glasses and swung them loosely from his forefinger, and twisted his chair around to face Stevens.

"I recalled you from the work you were superintending on the short line, Mr. Stevens, in order to have a serious talk with you in the interests of the road, and in your own, as well," he began. His voice, pitched in the medium register, had a peculiarly unpleasant metallic quality which was apt to first irritate and then tire one's ear.

"It has always been my habit to treat all employees with justice and equity; I have insisted that my subordinates subscribe to this policy. When I am confronted with an instance in which this strict rule has been violated, I take the matter up personally, inquire into the causes of the trouble, and endeavor to adjust it in a fair and impartial manner."

"Quite so, Mr. Chatterson," assented Stevens politely. That the long preamble was leading somewhere he knew, but it was quite beyond him to conjecture where.

"Consequently," continued Chatterson, "when complaint came to me that you had subjected one of your subordinates to a long series of petty indignities which, when he resented them, culminated in an unjust reprisal on your part, I deemed it nothing less than my duty to send for you and hear what you might have to say.

"I refer, as you have by this time gathered, to your controversies with, and final dismissal of, the foreman in charge of the construction gang on the short line—Peter Camm."

"Peter Camm?" repeated Stevens.

Was it possible that Chatterson had compelled him to leave his work and take a journey of two hundred miles in order to explain his dismissal of an unruly employee?

"Yes, Mr. Stevens, Peter Camm. I have heard his side of the story; now I shall be glad to listen to yours."

"I'm afraid I could hardly dignify it by the title of 'story,' Mr. Chatterson," remarked Stevens. "I had more or less difficulty with Camm from the very start. He was all right so far as his actual knowledge of the work went, but he is a born trouble-maker.

"He antagonized the men, bullied them and drove them like dogs. He was seldom sober, and set a bad example. To give him an order was to have him question it and take his own time about carrying it out.

"I put up with him as long as I could, but when I found him beating and kicking a man half his size, entirely without provocation and in defiance of all human decency, I read him the riot act. He was insolent and threatened me, so I promptly discharged him."

Chatterson nodded meditatively.

"Of course, you believe that your course was justified," he began.

"I should do the same thing again under similar circumstances, Mr. Chatterson, only I should do it sooner," put in Stevens quietly.

"But I am afraid you acted in a somewhat ill-advised manner," went on the general manager. "Camm assured me that while he did resort to force in the case of the laborer, it was necessary to do so in order to expel the man from the camp. He had been told to go and refused.

"Camm also contends that you would not listen to him, but preferred to take the word of a common, illiterate man against his; that when he attempted to reason with you, you laid violent hands upon him. I may say that his appearance bears out this part of his statement."

"I'm very glad of it," said Stevens grimly. "He didn't get half what he deserved. You'll pardon me, Mr. Chatterson, if I suggest that the construction work on the short line was entirely under my control. As nominal and actual head, it was entirely within my province to dispense with the services of every individual in the entire camp and engage others if, in my judgment, I was justified in so doing.

"I kept that drunken bully much too long for my own comfort, and I fired him for the good of everybody and everything concerned. If you choose to take exception to my action, I can only repeat that I used my own best judgment, and would do precisely the same thing again."

"Quietly, quietly, if you please, Mr. Stevens," chided Chatterson, regardless of the fact that the young man's voice had not risen by so much as a half-tone, and that his manner was perfectly respectful. "There is no need to get excited. I am not questioning your right to regulate the personnel of the camp. I am merely trying to arrive at a fair and impartial conclusion."

He cleared his throat and passed his hand rapidly over the top of his head.

Stevens saw the familiar gesture and made a mental note of it. As for conclusions, he had arrived at one almost as soon as the subject of Big Pete Camm had been broached: Mr. Chatterson's punctiliousness as a presiding judge of the employees' court of appeals—in this particular instance, at all events—was obviously counterfeit and was being used merely as a blind.

"There's a nigger in the woodpile somewhere," soliloquized the young man, as he waited for the general manager's next words, "and I expect if I wait long enough we shall have at him."

"No, I do not question your fundamental right to hire or dismiss whom you may see fit," proceeded Chatterson smoothly, "but I do question the efficiency of your management. Let us look at the situation squarely, Mr. Stevens.

"On the surface, your handling of the short line project has been expeditious and workmanlike. *On the surface,* I say. Please do not misunderstand me. I do not mean to imply that you have shirked your work, or committed errors or blunders except such minor ones as were to be expected in an undertaking of that magnitude.

"Nevertheless, there was something lacking, something vitally lacking from the very commencement. I was puzzled to account for it, and I gave it my most serious attention. The affair of the foreman, Camm, served as the illuminating illustration.

"This man was, for many years, in my employ, under my close personal supervision. I never observed in him any of the traits which you condemn so strongly. He was honest and able, if a trifle rough and uncouth. His temper was uncertain, but I had no trouble with him at all. Why? Because I took the trouble to study him, to acquaint myself with his peculiarities and make allowance for them.

"Mr. Stevens, you had not done this, I found. You had made no attempt to win his respect and cooperation. You alienated him, hopelessly, by continual censure, simply because you permitted yourself to dislike him. All your dealings with him were affected by this personal bias.

"And this was not the only instance, though it will suffice to show you what I mean. I determined to get at the fundamental cause of your inconsiderate attitude toward Camm and others, and my observations, one and all, led me to believe that indifference on your part was at the root of the whole trouble.

"You were not vitally concerned with the work you had been given to perform. You went about it perfunctorily, as might a man who does something because he is paid to do it and for no other reason. Your heart was not in it; you lacked spontaneity, enthusiasm.

"I asked myself why this was so, and finally came to the conclusion that there must be something else which was absorbing your thoughts—the real, vital interest of your mind. The more I thought, the more certain I was that I had hit upon the right solution. When I became firmly convinced, I sent for you.

"Mr. Stevens, I must ask you to tell me what it is that prevents you from giving whole-hearted and undivided allegiance to the San Francisco and New York Railroad?"

CHAPTER VII.

It Comes to the Surface.

"NOTHING," said Stevens briefly. Throughout the lengthy harangue of the general manager he had listened carefully, intently, and now he gave his answer unhesitatingly.

Chatterson frowned.

"Do you mean to tell me you have no concern for anything outside of your work for this road, Mr. Stevens? You wish me to understand that, since you have been employed here, you

have been engaged in no other occupation which you hoped might bring you financial or other reward?"

"That was not what you asked me, Mr. Chatterson. Your request was that I should tell you what it is that prevents me from giving wholehearted and undivided allegiance to the S. F. and N. Y., and I replied truthfully—nothing.

"And I must take exception to a number of your remarks. I did not go about my work perfunctorily nor with any lack of enthusiasm or interest. I put every ounce of brain and sinew I possess into it—a statement of which, I believe, the results I have accomplished will demonstrate the truth.

"As for Pete Camm, nothing you have said has changed my opinion of him. I didn't go out on the short line job to study psychology, but to put it through with as little expenditure of time and money as possible. Any factors which tended to increase the difficulties were eliminated by me. Pete Camm was one of them. I—"

"One moment, please!" Chatterson's frown had deepened. "All that is beside the point. If necessary, we can discuss it later. What I want to know now is—have you been interested in any outside work of any description whatever?"

"Yes."

"Ah!" The exclamation was mildly triumphant. "And for whom, Mr. Stevens?"

"For myself."

"The nature of it is—?"

Stevens hesitated. His first impulse was to decline to vouchsafe any information whatsoever. Yet, if Everett's suspicions were correct, Chatterson already knew what he had been doing; if they were not, no harm could come of telling him, since the patent had already been applied for.

"In my own time, Mr. Chatterson, and quite outside of office hours, I was trying to perfect an invention," he answered finally.

"Ah!" Chatterson's short, fat fingers swiftly smoothed the lock of hair that did not quite cover his bald spot. "What sort of an invention, may I ask?"

Stevens smiled.

"Something for doing away, to some extent, with the human equation, Mr. Chatterson. In other words, a device which will stop an engine which has passed a semaphore set against it, by automatically shutting off the steam and gradually setting the brakes. I call it a safety signal, though, properly speaking, it is not a signal at all."

Chatterson gave a start—a start so obviously forced that a child would have noticed its artificiality.

"What?" he exclaimed. "You—*you* claim to have invented—". He checked himself dramatically and sank back in his chair. "Strange," he muttered, "very strange!"

"What is strange, Mr. Chatterson? That I should try my hand at inventing?"

"No, no, not at all!" Chatterson said hurriedly. "I meant—er—I was about to say that it was very strange you should have told me nothing of this. It would seem to me that I should have been informed—under the circumstances."

"What circumstances?" asked Stevens curiously. In his mind's eye was the proverbial woodpile, and it seemed to him that he could discern a dark, woolly head over its top.

Chatterson cleared his throat.

"As an employee of the road and my subordinate you should have communicated your intention to me, and, from time to time, reported progress," he announced pompously. "I am surprised that you neglected to do so. However, I shall be glad to go into the matter with you now. Doubtless you have your data on hand? You might get your sketches, or whatever you have, and let me see them."

"Well, I can hardly do that, Mr. Chatterson," objected Stevens. "In the first place, they are rather rough

and would be difficult for you to make out. In the second place, I value them too highly to display them to any one."

The frown on the face of the general manager became a scowl.

"I have asked to see this invention of yours, Mr. Stevens, and I desire that you comply with my request at once, sir!" he said peremptorily.

Stevens shook his head.

"I cannot do it, Mr. Chatterson."

"As your superior, I order you to do it without further quibbling!"

A flush tinged the clear tan of Stevens's cheeks.

"I must deny your authority to issue such an order, Mr. Chatterson," he said quietly. "My invention has nothing to do with you or with this railroad. It is entirely my own, to do with as I see fit; neither you nor any other person has the right to demand to see it, and I must respectfully decline to discuss it with you further."

Chatterson's face relaxed into an expression of admirably simulated surprise.

"Really, you amaze me, Mr. Stevens. Your position is extraordinary, and, I may say, untenable. You are in the employ of the San Francisco and New York Railroad—paid by it for whatever work you do. Any inventions you may perfect, any discoveries you may make during your connection with the road, belong not to you but to the corporation.

"This safety device is not, as you so confidently assert, your own property, but that of the road. You will do well to understand this at once!"

"Indeed!" said Stevens.

CHAPTER VIII.

An Unpleasant Surprise.

SO this was what Chatterson had been leading up to—this barefaced attempt to secure something to which he had no moral or legal right! This was why he had sent Collins to take over the supervision of the short line, using the trivial incident of the discharge of the foreman as an excuse and weaving from it a chain of sophistry and casuistry, the flimsy links of which he had transparently connected with the subject of the invention.

A superintendent had discharged an unruly foreman; ergo: the superintendent was not interested in his work and must, therefore, be engaged in some outside occupation.

The whole thing was so ridiculous that, angry as he was, Stevens had much ado to keep from laughing outright. He composed his features, however, as he retorted with some asperity:

"I understand nothing of the sort, Mr. Chatterson! I have done the work I have been paid to do. I've put in anywhere from ten to sixteen hours a day on the job, and neither shirked nor neglected it in the smallest particular. The San Francisco and New York has no more right to my invention than I have to wireless telegraphy—and is quite as likely to secure it!"

"Control yourself, Mr. Stevens!" advised Chatterson in a tone which he meant to be soothing, but which he succeeded in making infinitely irritating. "There is no need for you to use intemperate language.

"You are laboring under a misapprehension, it seems. By the terms of your contract, whatever you may have invented in the past two years, or whatever you may invent in the future, so long as your connection with this road exists, is indisputably the property of the corporation.

"In view of your understanding and acceptance of the terms upon which your contract was and is based, I cannot understand your attitude. However, one must make allowances for the hot-headedness of youth.

"Doubtless the possibility that you had chanced upon a device which may prove valuable was a temptation to you to keep your operations secret. But you must realize that this transgresses your agreement in the letter as

well as in the spirit. It might even be characterized as underhand.

"As I said before, however, we must make allowances—I *do* make allowances. If I adhered to strict rules I should be compelled to lay this matter before President Mercer and the board of directors, who might, and undoubtedly would, take a serious view of it. But I have no wish to be hard; I desire only to help you.

"You will bring your models and drawings to me and I will have them examined by an expert—after I have looked over them myself. Then, if the device seems to have merit, we can arrange, perhaps, to give you some compensation for it. Of course, under your contract, you are entitled to none; but we want to treat every one with liberality, Mr. Stevens. The road has always been liberal, and more than liberal, to its employees.

"We believe in encouraging budding talent, and we are always ready to lend a helping hand to ambitious youth. A couple of thousand dollars, now—that would come in pretty handy, eh?"

Mr. Chatterson leaned back in his chair and positively beamed at the disgusted young man before him.

"A — couple—of—thousand—dollars!" he repeated, separating each word, as if to give due weight to the generosity of the offer, "provided that your work proves to be not without merit. What do you say?"

"I say," returned Stevens in a slow, level voice, "that I must regretfully decline to consider your offer."

"What?" demanded Chatterson. "You decline—"

"I do, most emphatically! The invention is mine. Rather than dispose of my rights in it for two thousand dollars — or ten times two thousand dollars—I'd break up every model I've got and use the drawings to kindle a fire!"

"Your language, sir—" Chatterson was beginning; but again Stevens interrupted.

"Is to the point!" he finished the sentence. "I mean just exactly that. I'm not a child, Mr. Chatterson, to be taken in by any such travesty of an offer. I'm astonished at you for making it.

"As to the invention being the property of the road, under my contract, that is perfectly absurd. I have a contract as eastern superintendent, which is temporarily superceded by one covering the position of superintendent of the short line. In neither of them is there the slightest mention of anything not directly bearing on that work.

"I didn't engage with the San Francisco and New York as a designer, draftsman, or inventor—merely as a minor official, and the contracts for that are merely a matter of form, anyway. They—"

"Stop!" Mr. Chatterson rapped sharply on the desk with the handle of his gold-mounted letter-opener. "I think you will find out that your contract with this road is vastly more than a 'mere matter of form'! It is a legal and binding document. After your unseemly outburst just now, I shall withdraw my offer of compensation and hold you strictly to its provisions!

"It declares, in unequivocal language, that you assign all right, title, and interest in any invention, improvement, or alteration in any or all mechanical devices, to the corporation, without restriction! And you have the effrontery to call this a 'mere matter of form'!

"Why, sir—but no! I will not say what I had meant to." Chatterson's manner altered abruptly; his tone lost its denunciatory note and became conciliating.

"I knew your father well, Mr. Stevens. He was a fine man, an honest and upright citizen, admired and respected by no man more than myself. For his sake, I will not be harsh with you. You have been tempted beyond your strength to resist; but it is not

too late. No one shall say that I denied the son of Marcus Stevens a chance to retrieve himself.

"You will bring me your models and drawings—"

"I will do nothing of the kind!" interposed Stevens evenly. "And you, if you will think back, are the first one who mentioned 'models and drawings.' It seems strange that you should be so familiar with the precise character of my personal belongings!"

Stevens paused and gazed keenly at the face of the general manager, who coughed and passed his hand rapidly over his hair. Then he went on, still in the same even voice:

"The invention is mine, and mine it shall remain. I refuse absolutely and unconditionally to show it or any part of it to you. The road has no shadow of right in it and never had. In my own good time I shall lay the results of my work before the directors. It has always been my intention to do this and give them the first opportunity to examine it, should it prove successful.

"But I am not yet ready to proceed. The contract on which you rely to back you up in this baseless claim has no existence. I never signed such a document, and I—"

It was Chatterson's turn to interrupt.

"One moment," he said. His ruddy cheeks were mottled with dark color and his breath came quickly. "One moment, Mr. Stevens. You have gone too far. In your ill-advised endeavor to retain for yourself what is rightfully the property of the San Francisco and New York Railroad, you have overreached yourself.

"You *did* sign such a contract, as you must be perfectly well aware, and as I can prove to you!"

"Pray do, then," suggested Stevens politely. His patience was becoming exhausted. "I should very much like to see this curious document."

Chatterson touched a button on his desk.

"Mr. Flint," he said to the secretary who answered the summons, "kindly bring me Mr. Stevens's contracts."

The secretary vanished, to reappear almost immediately with a large white envelope, which he laid on the desk.

Chatterson dismissed him with a wave of the hand. Opening the envelope, he drew forth its enclosures—three folded papers. With a bow he handed them to Stevens, who carelessly unfolded first one and then another.

"I fail to see—" Stevens began.

The words died on his lips. The third paper was an agreement between the San Francisco and New York Railroad, party of the first part, and John Stevens, party of the second part. Its provisions were clear and unmistakable.

Under them, Stevens renounced all right and title to and interest in any device which he might invent during the term of his employment by the corporation. The paper was signed in his own handwriting and bore the seal of a notary public!

CHAPTER IX.

The Forged Assignment.

ONCE, twice, thrice Stevens read it and then folded it up, finding the creases with painstaking care.

"Well," said Chatterson, "what have you got to say to that?"

"Only this, Mr. Chatterson." Stevens laid the paper on the desk and met the general manager's malicious gaze steadily. "Only this—that I never set eyes on it before in my life!"

Chatterson laughed nervously.

"That is a strange statement, Mr. Stevens. You signed it, did you not?"

"No," denied Stevens.

"What? That is certainly your signature. I am rather familiar with it—"

"I am rather familiar with it my-

self," replied Stevens, "and, though I am perfectly willing to admit that the signature is to all appearances mine, I did not guide the pen that wrote it."

Chatterson's bushy eyebrows went up.

"Really, Mr. Stevens, this is a little too much," he said in the manner of a man who wishes to be patient, but who is being tried beyond endurance. "How a young man of your intelligence can hope to successfully perpetrate such a brazen falsehood passes understanding. Do you see that notary's seal?"

He unfolded the assignment again and indicated the embossed lettering with a fat forefinger.

"I do, Mr. Chatterson. I also observe that he witnessed your signature, and also that of Mr. Robinson, your nephew. Yours is, I presume, genuine?"

"Of course, sir. I—"

"Well, mine is not," declared Stevens curtly. "It is an out-and-out forgery!"

"What do you mean?" bristled the general manager.

"I mean," rejoined Stevens, "that the notary claims to have witnessed something that never took place. I do not doubt that you and Mr. Robinson signed this paper; you as general manager and he as acting eastern superintendent, and that your signatures were duly and correctly witnessed. But I did not sign the assignment. I never saw it before, and I am prepared to go on the stand and swear to the truth of my statement."

The eyes of the two men met—Stevens's cool, calm, defiant; Chatterson's angry and shifting uneasily.

"I fancy," observed Chatterson smoothly, "that you would have difficulty in convincing a jury. Notaries public are not in the habit of appending their seals to documents which bear false signatures. Fortunately, too, we should have the testimony of the particular notary before whom you appeared."

Stevens glanced again at the paper.

"Ah!" he said. "Mr. Flint, your secretary! A most convenient arrangement, Mr. Chatterson, and one which does credit to your ingenuity. But do you think he can be trusted not to break down under cross-examination?"

Chatterson leaned forward, resting his elbow on the edge of the desk and speaking rapidly, earnestly.

"Stevens," he said, "it won't do. You signed this document, and you know it perfectly well. While I was not present at the time, it was brought to me with the other two—your signatures on them all—and I signed them in duplicate.

"It is— Hold!" He broke off suddenly, a flash of inspiration illuminating his face. "You signed the other two contracts in duplicate, on the same day you signed this. You did not stop to read it, and were unaware of its provisions. That is how it happened. Ah, how glad I am that the son of my old friend has not stooped to dishonesty and chicanery!"

With a gesture of contempt Stevens got to his feet.

"That is all very charming, Mr. Chatterson—except that I never in my life signed ~~any~~ paper without first reading it through. No one but an idiot would do such a thing. Moreover, when I signed my contracts with you—something which your predecessor had never required, and which was done at your insistent request—there were but two—those two there"—pointing to them—"and I signed them in duplicate. That assignment is a fraud, and if you persist in trying to foist it upon me as genuine I'll carry it to court and show up the methods of this corporation in a pretty unpleasant light."

It was not a wise speech; but Stevens's blood was up, and he did not care what he said. The utter contemptibility of the trick roused his ire as it had never before been roused. He was thoroughly disgusted and an-

gry. It was only by the greatest effort that he held himself in check.

"You will, will you?" sputtered Chatterson. "We'll see about that."

He gave the electric button a vicious push. An instant later Flint appeared in the doorway, looking a little pale and uneasy.

"You rang, sir?"

"I did!" snapped Chatterson. "Mr. Flint, do you recall this document?" He passed the disputed assignment to the secretary, who fixed his eyes upon it as if he feared to lift them. "That is your signature and seal?"

Flint gulped, swallowed hard, and said:

"Yes, sir."

"You affixed them in witness to the signature of Mr. Stevens here, who signed this paper in your presence on the date it bears?"

"Yes, sir. Surely, sir."

"You liar!" roared Stevens.

He took a swift step toward the secretary, who shrank back in alarm and turned a pair of appealing eyes toward Chatterson.

The general manager was equal to the occasion. Majestically but quickly he rose from his chair and placed himself between Flint and the now thoroughly enraged Stevens.

"That will do, Mr. Flint; thank you," he said over his shoulder. "And you," he continued to Stevens, as the secretary beat a hasty retreat, "only the fact that you are Marcus Stevens's son, and that you have for so long been a trusted employee of this road, prevents me from having you summarily and forcibly ejected from this office.

"As it is, I shall take your case under advisement and try to decide what course it is best to pursue. You have acted in a manner unbecoming a gentleman. Your charges are little short of outrageous. I am astounded —astounded!"

"So am I, Mr. Chatterson." Stevens picked up his hat and moved toward the door. "I find it difficult to believe that you would lend yourself to such a dastardly plot as the one which has been uncovered this morning. Flint didn't figure out this alone. He was acting under rigid instructions —from whom you are the best judge.

"I am going direct from here to take steps to protect my interests. If you imagine that the San Francisco and New York, or Charles Chatterson, will get away with this Jesse James business, you're very badly mistaken."

"That will do, sir! You will report to me at nine o'clock to-morrow morning here, at which time—"

"I shall have the pleasure of tendering my resignation and severing all connection with the road," interjected Stevens.

"Meantime," the general manager added, "you will keep off the premises. If you attempt to enter any part of them before to-morrow at nine o'clock I shall have you removed."

He took down the receiver of his desk telephone and spoke into the transmitter.

"Miss Pearl, order Clifton to lock the door of Mr. Stevens's office and bring me the key," he directed the operator.

Then he turned to Stevens with an ugly light in his little eyes.

"Good morning," he said.

CHAPTER X.

A Midnight Ramble.

AS he made his way out of the big building John Stevens's mind was in a whirl. He had heard and read of incidents where men had been cheated or tricked out of their inventions, but he had discounted most of the stories. For the victims he had always felt a sort of half-contemptuous pity. To him they were poor, weak-kneed creatures, simple enough to fall a ready prey to knaves.

That he had passed a more or less snap judgment was now brought home to him with disconcerting force.

In the code of the unscrupulous might makes right, and the stronger oppresses the weaker.

A man might have all right on his side, and yet find himself powerless to obtain justice.

The claim of Chatterson had been made with such surprising suddenness, and backed up with such amazing evidence, that Stevens could hardly credit what had happened during the interview. One thing alone was clear to him; that the safety device was a valuable one, and that the general manager knew it.

That he (or whoever was at the bottom of the outrage) would have gone to such lengths on the mere chance that it might prove of worth was not to be considered. The very elaborateness of the plot and its elements of danger proved this.

That Flint had sworn to a forgery was self-evident. The paper bearing the signature of Stevens had never been seen before by the man whose assignment it purported to be. Flint was not clever enough nor courageous enough to make a good rascal. Whoever employed him as a tool was taking big risks. Stevens recalled his fluctuating color and stammering voice as he had given his false replies to Chatterson's questions.

The more Stevens thought of it all the more indignant he became. Theft, forgery, perjury — some one should pay dearly for it!

To be called dishonest and dishonorable when he was merely defending his just rights, and then, as a climax to the other indignities, to be ordered out of the building and have the office containing his personal effects locked against him! Some of his models and drawings were in his desk, where he now regretted his trustfulness in leaving them.

True, he had others; but if he had not left them there while he was away no one would have known anything about them. The wisest thing he had ever done was to apply early for his patent. In the hurry of getting to the short-line job he had been obliged to leave everything at a loose end; but he had managed to make a flying trip to the city and mail his application to the patent office, saying nothing to any one about being in town. It was shortly after that he had received Sandy's first message.

Well, when the patent was granted —as it must be any day—he could afford to snap his fingers at those who would try to take it from him. Let them produce their forged contract and perjured witnesses. They would have no easy task in proving the genuineness of the one and the veracity of the other.

Stevens nodded grimly to himself as he hailed a south-bound car. Meantime, let them keep his office locked up —much good might it do them. By the time they had figured out the intricate mechanism of his device and taken steps to have it patented he would be entrenched firmly in a position from which they would find it difficult to dislodge him.

And yet, reassure himself as he would, with a host of sound and unassailable arguments, he was thoroughly disturbed and upset. He would have been even more so had he known that Mr. Chatterson had anticipated the possibility of his applying for a patent, and endeavored to guard against it.

The conventional inventor, confronted by a threatening crisis, invariably goes to his shabby attic and bemoans his hard fate. John Stevens, however, was not cast in this mold. He was a sane, clear-headed young man, with his full share of common sense.

Consequently, his first thought was to obtain competent legal advice. Accordingly, he directed his steps toward the office of Andrew Dean, a shrewd, able attorney, who had been a friend of his father and instrumental in getting him his first position with the San Francisco and New York Railroad.

At the office, however, he learned that Dean was trying a case out of town, and was not expected to return until late Friday afternoon—possibly not until Saturday morning.

This was disappointing in the extreme. There was no one else to whom Stevens cared to entrust his business—no one else, indeed, in whose hands he could afford to place himself. With Dean he would take no chances; whereas, with a stranger he would feel uncertain of his ground unless he went to some prominent man who would charge him a larger fee than he could afford to pay.

Every cent that Stevens had been able to save from his living expenses he had put into his invention. A big retainer was out of the question.

There was only one thing to do—wait until Dean returned and then lay the case before him. The young man chafed at the enforced delay, but could think of no better or wiser course.

There was no use in staying in the city. The day was warm; the humidity intense. Directly after luncheon Stevens crossed the ferry and boarded the train for Riverdale, which was about a twenty-minute run from the terminal.

Both he and Everett had agreed that it was better for them to live outside the city limits, where the air was better and purer, and where they would be free of the heat and noise of the city pavements. They had chosen Riverdale because it combined attractively the advantages of city and country.

Situated on one of the suburban divisions of the San Francisco and New York, as employees of the road, they traveled on passes. The trains were numerous and followed a convenient schedule. Less than fifty minutes sufficed to make the trip from house to office—a time allowance that could be cut down by using the tunnel under the river instead of the ferry-boat.

The town itself was pretty and attractive, boasting numerous charming walks and drives and the picturesque stream from which it derived its name.

After an exhaustive search the friends had picked out a suite of three rooms and bath on the second floor of a house owned by a maiden lady of unimpeachable antecedents and uncertain age.

The Summers family was one of the oldest in Riverdale. Miss Melinda Summers, its sole surviving representative, would cheerfully have gone to the stake before she would have disgraced her illustrious forebears by taking boarders.

For years she and Mrs. Amelia Parr, a deaf, sharp-tongued old aunt ("on the Kent side, you know," as Miss Melinda always carefully explained), had waged a losing battle to make both ends meet, and finally capitulated to the extent of taking—not boarders, but "paying guests."

The pleasant fiction did not hurt Miss Melinda's tender sensibilities, and assuredly did no harm to Everett and Stevens, who were admirably housed and fed.

The faded little woman swept and dusted their rooms with her own hands, mended their stockings and sewed on their buttons (quite surreptitiously), cooked their breakfasts and dinners and worried a good deal lest they indulge in indigestibles at the noon meal which they ate in the city.

She was devoted to Sandy, and would have done anything for him; but John Stevens she adored, blindly and devotedly.

To her he was a "wonderful man," as she emphatically expressed it. She was never so happy as when she was performing some small service for him; she studied his comfort as painstakingly as if she had been the mother who had died when he was a boy of five, and whom he remembered dimly as a fragile, delicate creature, with soft-brown eyes and tender arms.

Stevens's unexpected appearance in

the middle of the afternoon gave Miss Melinda much concern. She hung over the banister from the third floor as she heard his familiar step on the stairs, and inquired anxiously if he were ill.

His cheery answer that his health was perfect served only partially to reassure her; and she spent what remained of the afternoon in preparing dainty dishes to tempt his appetite, hovering solicitously about his chair when he came down to dinner and urging him to "eat and keep his strength up."

Sandy did not return at his usual hour. A little before eight a youth who worked in the office stopped at the door to leave a message from him to the effect that he had been sent to Philadelphia by the head of his department, and would not be home that night.

The news was another disappointment for Stevens. He had hoped to get the benefit of Sandy's judgment and advice before the next day's interview with Chatterson. It would have been a relief to be able to talk things over, even if Sandy had no suggestions to offer.

It was certainly unfortunate that he should have had to go; but then, Stevens told himself, everything seemed to be going wrong, and his friend's absence at this particular time was simply part and parcel of the whole annoying scheme of things.

He spent a long and tiresome evening, unable to interest himself in a book or to take his mind from the matter which engrossed his thoughts to the exclusion of all else, and went to bed early—but not to sleep.

In spite of the optimistic attitude he had forced himself to take, gloomy possibility after gloomy possibility insistently rose before him, and it was hours before he finally dropped off into an uneasy slumber.

Toward morning he awoke with a sense of oppression. The slight breeze that had tempered the heat of the evening had died away, and the air in the bedroom was lifeless and close.

For a while he lay, tossing and turning; then, finding further sleep impossible, he arose, dressed, and stole quietly down-stairs with the intention of walking down the boulevard in search of coolness.

Letting himself out of the front door, he closed it behind him noiselessly and stood looking out over the sleeping town. It was barely three o'clock and not a soul was to be seen on the streets. The sky was overcast, presaging a wet day; not a breath of wind stirred.

A thin, gray fog from the river hung low, like a misty curtain, through which the forms of houses and trees loomed like dusky ghosts in the gloom. Here and there a street-lamp glimmered feebly, its narrow circle of light accentuating the surrounding darkness.

Stevens stepped off the porch and, strolling down the path, turned westward toward the river, a deep swift stream which flowed along the boundary of the town and afforded moderately good facilities for boating and bathing.

A broad, well-kept avenue, trimly parked in the center and bearing the pretentious name of Riverside Boulevard, followed the windings of the stream, and was separated from it by a steep slope on which ferns and decorative shrubs grew thickly.

Here were all the show places of Riverdale, with the exception of the home of Charles Chatterson, which stood at the summit of a little hill, well toward the lower end of the drive, surrounded by extensive gardens. It was the most ostentatious residence to be found within the limits of the town; but those on the boulevard, although more modest in size, could boast greater architectural beauty.

They gave the impression of mellow age, of belonging where they stood—of being a part of the landscape. Their

wide lawns, like smooth expanses of green velvet, sloped down to the roadway and were dotted with clumps of fine old trees. Not for years had there been a foot of land for sale on the drive. Some of the houses had stood for generations, externally unchanged, the interiors keeping up with the march of modern improvement.

The boulevard was silent and deserted as Stevens walked slowly along, aimlessly recalling the names of the owners of the various places.

There was the Mercer place, where the president of the San Francisco and New York lived, one of the oldest and most impressive of the houses. It was simple and stately, like the president himself. No extravagant trimmings, no ornate arrangement there; nothing but plain, fine lines, beautiful in their austerity.

A little farther along was the home of Judge Lester, who filled well the claim of "one of the town's most substantial citizens." He was a director in half a dozen town and city banks and a power in local and State politics. He was known as "the Incorruptible Judge." Some of the decisions he had handed down from the bench had caused him to be cordially hated by more than one of his neighbors.

The house was almost buried in greenery. Its tall, rounded columns showed white, like slender, swathed wraiths, between the dark tree-trunks. Here and there a window-pane caught and reflected a faint gleam of light, as if from the surface of some woodland pool.

As Stevens came abreast of the graveled drive, which swept in a wide ellipse under the *porte cochère* around to the stables and garage and out again at the farther side of the lawn, a drop of rain fell on his hand, followed by another and another until a brisk fusillade of drops was rapping out a rhythmic staccato on the leaves overhead.

He stepped close under the overhanging branches to wait until the shower passed; but a sudden gust of wind drove the rain smartly into his face and sent him scurrying up the drive to seek temporary refuge on the porch. He had a bowing acquaintance with the judge and knew he would be welcome to such shelter as the veranda afforded.

A number of chairs was scattered about. He selected one and decided to make himself as comfortable as possible until the storm should have abated sufficiently to allow him to venture forth again without being drenched, when a thin ray of light flitted across the porch floor and disappeared as swiftly and silently as it had come.

He halted, staring in surprise at the place where it had been and waiting for its reappearance. Once more it glimmered briefly. This time his eyes traced it to the middle one of the three French windows that opened out of the drawing-room.

The sash was set slightly ajar, although it was still much too early for the members of the household to be stirring; and it seemed to Stevens hardly probable that any one with legitimate business in Judge Lester's drawing-room would be likely to set about it at three o'clock in the morning with the aid of a dark lantern.

CHAPTER XI.

A Real Adventure.

WITH the utmost caution he moved along toward the open casement, pressing close to the wall, lest he be seen from within. The room was in total darkness, save for that slim, steady beam that pierced the gloom like a luminous finger and dimly lighted one corner of the big apartment.

Sundry rustlings came to Stevens's ears—a thud, as if the intruder had knocked against the woodwork or collided with some stationary object, and then the soft sound of footsteps.

Stretching out his hand, Stevens drew the casement wide open. As he did so a click sounded and the whole room was ablaze with light.

The sudden transition from comparative darkness to the bright glare of electricity made him blink uncertainly; but he made out the tall figure of the judge in pajamas and dressing-gown, standing just inside the doorway leading to the hall, one hand pressing the electric button, the other grasping a heavy walking-stick.

Not three feet from the window and with his back to it, crouched a short, stocky man, shabbily dressed and with a battered felt hat pulled well down over his eyes. At his side lay a black satchel and the lantern, its tiny beam dwarfed and swallowed up in the bright glow from the electric bulbs.

His arm rose swiftly. The polished barrel of a revolver gleamed in his hand. Simultaneously Stevens hurled himself forward, striking the weapon upward and flinging a muscular forearm around the man's throat.

There was a loud report and a little cloud of acrid smoke drifted upward as the spent bullet buried itself harmlessly in the ceiling. In another instant Judge Lester had run forward and, with a well-directed blow with the walking-stick, put an end to hostilities.

Over the sprawling, insensible figure on the rug he extended a cordial hand to his unexpected guest.

"Well, young man," said he, looking Stevens from head to foot with keen, gray eyes, "I don't know how you happened to be here; but it's a mighty lucky thing for me you came just when you did."

From the pocket of his dressing-gown he produced a handkerchief and wiped the perspiration from his forehead.

There was a sound of hurrying footsteps overhead and an anxious cry of: "Father! What has happened? Are you hurt?"

"I'm all right!" called out the judge. "Don't be frightened. My daughter Ruth, Mr. Stevens," he added as the girl appeared in the doorway.

Stevens's first impression of Ruth Lester was somewhat confused. She was clad in a loose dressing-gown of white Japanese silk, embroidered with cherry-blossoms, that hung from her shoulders to her slender, slippered feet.

Two heavy braids of dull-black hair fell to her knees, breaking into undulating waves across her forehead and framing a lovely, pale face from which her great, dark eyes, still cloudy from sleep, looked out half in terror at sight of the sinister figure on the rug, half in confusion at the stranger with her father.

Most women would have screamed or fainted. Ruth Lester did neither. Beyond the paleness of her cheeks and a little convulsive catching of her breath there was nothing to indicate the alarm she must have felt.

She acknowledged the introduction of Stevens with a slight smile and an inclination of her head, turning immediately to her father with an unspoken question on her lips.

In a few words Judge Lester explained that he had been awakened by the rain beating in through his open window, and he had risen to lower the sash. His attention had been attracted by an unusual noise in the drawing-room, which was situated directly beneath his bedroom, and he wanted to find out what was going on.

"And you came down here alone, with only that walking-stick in your hand!" exclaimed Ruth reproachfully. "Why, father, you might have been killed! Didn't I hear a shot fired?"

"You did, my dear," answered the judge. "I admit I acted hastily and without thinking. If it hadn't been for Mr. Stevens, this little affair might have had a far more unpleasant ending for me. He appeared most opportunely, from Heaven knows where, and spoiled the rascal's aim—just in the nick of time."

Ruth shuddered.

"It was pure chance that brought me here," said Stevens. "I couldn't sleep on account of the heat and started out to search for a breeze. Then it began to rain and I took the liberty of seeking shelter on your hospitable veranda."

He went on to explain how the flitting ray of light had aroused his suspicions and led him to make an investigation.

"And now," he finished, "if I may make a suggestion, I should advise calling up the police and having them collect this fellow before he regains consciousness."

He had already possessed himself of the revolver which the man had carried and now handed it to the judge.

"Bless my soul!" ejaculated Judge Lester. "You're right, young man. Ruth, my dear, I hear some one coming down-stairs. It's probably Packard—the day after the party. Tell him to get a good, strong piece of rope—two pieces—and bring them here at once. Then call up Captain Halsey and ask him to send the patrol wagon and a couple of officers to remove this miscreant."

"Yes, father. And, Mr. Stevens"—Ruth turned with outstretched hand—"I—oh, I can't tell you how much I thank you! It is terrible to think what might have happened if—if you hadn't been here. I hope you will come very soon and see us, so that I can have a better opportunity of telling you how grateful I am. It was perfectly splendid of you! I shall never forget it."

"Really, Miss Lester," begged Stevens, blushing like a boy at her praise, "you greatly overrate it all. I'd like nothing better than to accept your invitation, but not for the purpose of being thanked."

He took the hand she offered. The pressure of her slim, cool fingers sent a thrill of pleasure through him. She smiled again.

"But come, nevertheless, please," she said and left the room.

The judge followed her fondly with his eyes and promptly supplemented the invitation she had given.

"Ruth is the head of the house," he said to Stevens. "Since her mother's death she has held the reins and runs everything, including her daddy. She thinks a heap of me, too," he added with a whimsical smile, "and I guess you'll have to resign yourself to being exalted and lauded and made much of, whether you like it or not."

"I fancy it would not be altogether disagreeable—the latter part of it, anyway," smiled Stevens.

The entrance of Packard, the butler, more or less sketchily attired, bearing a coil of clothesline and the kitchen bread-knife, turned attention again to the burglar, who was beginning to show signs of returning consciousness.

The judge could not recall ever having seen the intruder before; and from the very fact that he had been discovered in the drawing-room, the least likely place in the whole house to contain portable valuables, it was evident that he had no previous knowledge of the interior arrangements. Therefore the judge argued that he had merely picked out the Lester place on speculation.

By the time the patrol wagon arrived the man's hands and feet had been securely bound. Groaning and cursing, he was loaded into the vehicle by two stalwart policemen and driven away.

Judge Lester escorted Stevens to the front door.

"Remember, you're coming to dinner one night next week," was his parting injunction. "Ruth will write to you and fix a date. And if ever I can be of any service to you, Stevens, pray do not fail to give me the opportunity. I shall esteem it a privilege—a great privilege!"

Stevens returned to his own apartments. The rain had ceased. As he unlocked the front door and tiptoed

into the house the sun poked a watery eye through the gray clouds that scudded across the eastern sky.

The reaction from the two exciting scenes through which he had recently passed had left him tired and dispirited; but a cold plunge and a shave refreshed him somewhat; and after a leisurely toilet he sat down by the window to wait until breakfast should be ready. Breakfast—and then for the interview with Chatterson!

CHAPTER XII.

A Common Thief!

"WELL, young man, I hope you have come to your senses!" was the general manager's greeting when, prompt to the minute, Stevens entered his office at nine o'clock. "There's nothing like a good night's sleep to clear the brain of foolish notions."

"If you regard as 'foolish notions' my conviction that my personal property is my own, Mr. Chatterson, I'm afraid I shall have to disappoint you. I am of the same opinion as yesterday on that subject."

Stevens stood before the big desk, tall and straight, his fine features set in uncompromising sternness. He had other convictions, too; one of them was that Charles Chatterson was a crook!

"Sit down, if you please," requested the general manager. With his foot he pushed a chair forward. Stevens accepted it with a stiff "I thank you."

"I had been hoping," said Chatterson, "that a little cool-headed reflection would have revealed to you the utter folly of your attitude."

"Really?" murmured Stevens.

Chatterson continued: "After your words yesterday I confess I was inclined to lay the whole matter before President Mercer, who I know would take summary action. But I remembered that you are the son of Marcus Stevens and decided to give you one last chance. This is the proposition I have to lay before you. You—"

"If your proposition involves surrendering any of the rights in my invention either to you or to the San Francisco and New York," Stevens interrupted, "it is declined in advance."

Chatterson raised a protesting hand.

"Hear me out, if you please, Mr. Stevens. As I was about to say, you have practically completed your work on the short line. Mr. Collins is entirely competent to gather up all loose ends there, and I have appointed him superintendent. He will remain in charge until we are ready to start running our regular trains over the line.

"But there is another opening for you in Colorado where we propose to commence a similar work almost at once. The position will be a responsible one and carry with it an increase in salary. I am prepared to offer it to you on the condition that you assign your alleged rights in this safety device to me.

"I make you this offer, overlooking what passed in this office yesterday, for the sake of your dead father, who—"

"Kindly leave my father's name out of this!" requested the young man curtly. "I object to having it mentioned in connection with such a disreputable transaction as the one you are proposing."

"Disreputable transaction!" sputtered Chatterson.

"That's what I said, Mr. Chatterson! Disreputable transaction!" thundered Stevens as he sprang to his feet and towered above the general manager, his face white with wrath, his blue eyes twin flames.

"You're offering me a bribe—a dirty little bribe—to go half-way across the continent and leave you unmolested! You think you've got me with that forged contract, sworn to by that perjured young liar you employ as a secretary! You think you

can frighten me into giving up what is rightfully mine, and that I'll come to heel and lick your hand! Well, you've picked out the wrong man! I don't scare worth a cent!

"If you try any monkey-business with that contract I'll take the whole thing into court and give it a good airing! I've got one of the best lawyers in New York, and you can't buy him off any more than you can buy me!"

Stevens banged his fist on the desk so that the ink splashed over the edge of the well, and glared savagely at the portly Chatterson.

"Here's my resignation," he added a little more calmly, tossing the paper on the desk. "You can do with it as you like. And now"—tensely—"I'm going to my office to get my things out of my desk. You ordered the door locked yesterday; you can order it unlocked now. If it's still fastened when I get to it I'll break it down!"

Chatterson wet his lips.

"The door will not be locked, Mr. Stevens, so you need not break it down," he said. "I have given you every chance, and you have thrown them away. I shall talk and temporize no more—I shall act!"

He picked up the paper from the desk and tore it across and across again.

"Your resignation is not accepted for the reason that I discharge you—here and now! You are a dishonorable, dishonest employee. As such you are not permitted to resign.

"You spoke"—his little eyes glittered evilly—"of having the best lawyer in the city. Presumably you refer to Mr. Dean. I happen to know that you did not see him when you went to his office yesterday, as he was out of town. I should strongly advise, too, that you make no attempt to see him in the future.

"For I shall take pains to have you watched, Mr. Stevens. The first move you make against this railroad will land you in jail on the charge of purloining certain drawings and specifications from the desk of Mr. Robinson and attempting to pass them off as your own!"

The thing was so preposterous that for a moment Stevens was unable to speak. Chatterson smiled disagreeably.

"You are surprised, I see. But no more so than I was to find that this railroad was employing a common thief! The contents of your desk prove your guilt only too conclusively. And I—"

Stevens found his voice.

"The contents of my desk? You dared to open it—you *dared?*"

The general manager bowed.

"In the interests of justice, Mr. Stevens. When you told me of the nature of your invention yesterday I suspected that all was not as it should be, inasmuch as my nephew had been working on one of precisely the same sort. It seemed strange to me at the time that you should have hit upon the same idea.

"I caused an investigation to be made, therefore, and my suspicions were confirmed. You stole the drawings Mr. Robinson had made and you tried to steal his idea. But fortunately you were too late and your double-dealing has recoiled on your own unfortunate head.

"You will find your desk exactly as you left it, with the exception of the copies of the drawings and the models you had made from them. These I have confiscated. And now"—he spat out the words with a leer—"will you get out of my office?"

For an instant Stevens stood as if turned to stone. His forehead was beaded with great drops of perspiration; his teeth were set and his hands tightly clenched at his sides.

Then the tension slowly relaxed and he drew a long breath.

"I will go," he said, and turned away. At the door he paused.

"I, too," he said, and his voice was dangerously smooth, "am surprised to

find that this railroad is employing a common thief."

The door closed behind him.

CHAPTER XIII.

Mr. Robinson Is Much Abused.

IT was entirely the misfortune and not at all the fault of Mr. Marmaduke Robinson that he should be coming out of a small office at the end of a long corridor at the precise moment when Stevens was about to enter.

Mr. Robinson, as usual elaborately hatted and gloved, carried a light stick which he twirled jauntily. He had not expected to see Stevens; in fact, he believed the discharged superintendent to be still in conference with the general manager.

If he had not, being a young man of discretion, he would have chosen some other time for his visit to the office to which Stevens's desk had been moved.

But, distasteful as the meeting was, he did not allow himself to appear disconcerted. On the contrary, he permitted himself to smile patronizingly, and was about to speak when Stevens forestalled him.

"What are you doing in there?"

The words, no less than the tone in which they were uttered, distinctly affronted Mr. Robinson. To be spoken to in such brusk fashion by a man whom it was really a condescension for him to notice at all!

He drew himself up and stared stonily at his interlocutor, without offering to reply. Then he prepared to move on; but the corridor was narrow and Stevens's shoulders were broad. Unless they were turned sidewise Mr. Robinson could not have passed without brushing against them.

"Go back into that room!" ordered the owner of the shoulders.

"Stand aside; if you please!" returned Robinson frigidly.

"I said—go back into that room!" Stevens repeated.

Something told Robinson that he should obey. He reentered the office, Stevens following.

"What is the meaning of this outrage?" demanded Robinson.

"That's what I want to ask you." Stevens closed the door and moved a few steps into the room. "I've just come from a talk with your pal, and I'm delighted to find you here. I hadn't expected to be so fortunate."

"My pal?"

"Yes, your pal. I believe that's the correct term. When two thieves do a job together one speaks of them as pals."

"I do not know what you mean," said Robinson loftily. "But I do know that you are impudent and impertinent."

"I'm going to be worse than that before I get through with you!" declared Stevens grimly. "I can't say for certain who is the ringleader in the combination; but I can make a good guess that you didn't think the details of this thing out. You haven't brains enough. However, you did your share.

"You found out that I'd been working on an invention, and told your precious uncle about it. You two cooked up a plot to get it away from me—after you found that it was likely to be valuable.

"Your uncle is too old a man for me to thrash; but you'll do very well as his deputy. And I'll see to it that you're not slighted, for your own account."

The face of Marmaduke Robinson turned to a pasty gray. He looked from the door to Stevens and from Stevens to the door again, mentally calculating the chances for making his exit unhindered. But they did not seem very promising.

"This is an outrage!" he managed to utter. "Open that door and let me out at once. I shall report you to the president for this!"

"If you do you'll get another licking," Stevens promised him pleasantly.

"Come, Robinson—let's see if you can use your hands as well now as you did when you picked the lock of my desk and stole my models and drawings to copy!"

It was a chance shot, for Stevens had no means of knowing that Robinson had taken them, or even that they had been taken, previous to their "confiscation" by the general manager; but the expression on Robinson's face convinced him that he had made a bull's eye. His own jaw set like a vise, and a little shiver ran over him.

"Put up your hands like a man!" he ordered. "Or are you a physical coward, too?"

Robinson was. Incidentally, he had been in his uncle's office when Big Pete Camm had presented his complaint and he had a vivid recollection of the foreman's bruised and battered countenance.

As Stevens advanced he retreated, clutching at the tatters of his dignity.

"If you do not open the door I shall cane you!" he said. "I refuse to soil my hands on a thief!"

"Well, I'm not so particular!" growled Stevens.

Reaching out one hand, he snatched the walking-stick and tossed it, broken in two pieces, into the corner. The next instant he had caught its badly frightened owner by the collar. Holding him with no apparent effort, he shook him until his teeth chattered.

"You reptile!" he ground out. "You slimy little snake, you! What do you mean by going through my desk? You thought you could do me up and that I wouldn't find it out, didn't you? You thought you could steal my idea, palm it off as your own, and make a lot of money out of my brains, didn't you? Well, you didn't get away with it. I'm going to give you a sound manhandling, understand?" He punctuated each sentence by a vicious twist of Robinson's collar.

"Stop! Stop! You're choking me!" gasped Robinson, making frantic efforts to free himself.

But Stevens paid no attention to him.

"That's for your uncle—and that's for you! And there's one for uncle—and another for you! I want you to have good measure—and you can pass uncle's share along to him. You miserable, contemptible, sneaking cur! And if you ever get in my way again I'll break every bone in your cowardly carcass!"

With a final shake he banged the utterly wretched Marmaduke to the floor, hurriedly collected the few things he had left in his desk, and strode out of the office, shutting the door behind him with a vigorous slam.

His hands were tingling from the stinging blows he had administered, and the blood was humming through his head. He was filled with a fierce, exultant joy.

They would rob him, would they? They would try to steal the product of his hand and brain and exploit it for their own benefit! They expected him to acquiesce meekly and bow to whatever indignity they chose to offer him.

They should see how badly they were mistaken.

For several minutes after the slam of the door and the sound of footsteps retreating along the hall told him that he was alone, Robinson lay on the floor, fearful lest Stevens should return. Then he climbed slowly and with difficulty to his feet and shook his fist in the air.

"I'll fix you for this, John Stevens; you see if I don't!" he mumbled, almost incoherent from pain and rage. "I'll attend to your case—and don't you forget it! You'll pay for this day's work!"

He adjusted his disordered garments as best he could and brushed some of the dust from them; but, despite his efforts, he was a sorry-looking object. Both front buttonholes of his collar were torn out, his coat was split across the back, and the dirt from the office floor had been ground into the knees of his trousers.

One eye was half closed, his cheeks were brick red and his lips badly cut. He looked as if he had been in a head-end collision with a windmill—and he felt very much the same way.

What explanation could he offer for his distressful appearance? The truth was too mortifying. He hoped that he might be able to get home without meeting any one who knew him; but the hope was blasted the instant he opened the office door, for Sandy Everett was coming down the corridor.

"Hello!" said Everett, stopping short in his tracks. "What happened to you?"

Robinson disdained to answer. He brushed past Everett, leaving that gentleman staring amazedly after him, and hobbled painfully along the corridor, holding his monogrammed handkerchief to his bleeding mouth.

CHAPTER XIV.

A Mysterious Finger-Print.

MISS MELINDA SUMMERS had been anxious all day. A light sleeper, she had been awakened early that morning by the stealthy closing of the front door. Looking from her window, she had observed Stevens going down the path. She had heard him come in again just after sunrise, and when the breakfast-bell had rung he had answered it with unusual promptness.

All of which had led the little lady to believe that he had slept little or not at all during the night, a fact which, coupled with his early return the previous day and his moody preoccupation, indicated that he had something on his mind.

"I wonder if he wasn't pleased, after all?" she soliloquized aloud. She had a habit of thinking aloud, born perhaps of many years of practical solitude, with no one to converse with except Mrs. Parr, with whom conversation was next to impossible, because it was necessary to raise one's voice to a shout in order to make her hear.

Miss Melinda did not like to shout, and Mrs. Parr was rather sensitive on the subject of her deafness and would not use an ear-trumpet. She contended that she could hear perfectly well if people didn't mumble their words, and she made the most ludicrous blunders by pretending that she had understood some question addressed to her and answering it according to her idea of what it ought to have been rather than what it actually was.

She turned her withered face toward her niece as they sat sewing on the porch late in the afternoon.

"What's that, Melinda?" she wanted to know.

"I just said I wondered if he wasn't pleased, after all," returned Miss Melinda.

Mrs. Parr shook her head.

"No," she said firmly; "he did *not* take his umbrella, and he was wearing a new straw hat. Wasteful extravagance *I* call it."

"But it didn't rain, Aunt Parr," objected Miss Summers mildly. "It stopped raining at dawn, and it seemed quite clear when Mr. Stevens left—quite clear."

"Well, it may have been dear or cheap; but cream for breakfast is a luxury they wouldn't get elsewhere," declared Mrs. Parr firmly.

"Not dear—clear—clear!" shrilled Miss Melinda.

"Who is near? I'd thank you not to insinuate any such thing!" Mrs. Parr was indignant. "But I do say that the top of the bottle is quite good enough for them."

Miss Melinda shook her head helplessly. It was like talking to a phonograph record.

"Anyway," she added as she spied Stevens coming along the road from the station, "I mean to ask him. Perhaps it wasn't the set he wanted at all; they may have gotten the wrong binding, or maybe you misunderstood

what the young man said, Aunt Parr. I shall ask him and set my mind at rest."

"Well, I always said you ought to every afternoon," Mrs. Parr told her. "An hour's nap is good for you. I just couldn't get along without mine."

Miss Melinda turned to her suddenly.

"Aunt Parr, what did that young man who came here to see about Mr. Stevens's books say his name was?"

"Eh? What's that you say, Melinda?"

Miss Melinda raised her voice and repeated the question several keys higher.

"Well, you needn't yell," said Mrs. Parr irritably. "Any one would think I was deaf! No, I never read any of Stevenson's books except 'Treasure Island,' and I don't hold with that—all bandits and murders."

In despair, Miss Melinda gave up the attempt to extract any information, but when Stevens came up the steps and greeted her a little absent-mindedly she followed him into the hall.

"Has your birthday passed yet?" she asked him, peering up at his face with troubled eyes.

"Why, yes, Miss 'Linda — long ago." It was like the dear old soul to think of his birthday.

"And did you like the books?"

"What books?"

"Why, the set of technical books your friend sent you for a present."

He shook his head, smiling.

"Nobody sent me any books at all," he said. "What friend do you mean?"

The troubled look in Miss Melinda's eyes grew more pronounced.

"I don't know that I ought to speak of it to you, Mr. Stevens," she fluttered. "He asked Aunt Parr not to mention that he had been here, because he wanted to surprise you. He said he was going to make you a birthday present of a set of books — technical books — that you wanted very much, and had to be sure to match the bindings of the ones you already had, you know.

"I told Aunt Parr that maybe you wouldn't like it because she let him go into your sitting-room; but she said he told her he knew you very well, and that you wouldn't mind, so I supposed it was all right."

"He went into my room?" asked Stevens quickly. "When was this, Miss 'Linda?"

"Oh, weeks ago!" she answered vaguely. "You were away, you know. It was just after you came home that Saturday, I think, though I can't be sure."

"But who was this person? What was his name? What did he look like?"

Again she shook her head.

"I wasn't home when he came, but Aunt Parr told me directly I got in. I'd not have said anything to you at all, only—only I thought you looked troubled, and I was afraid maybe the bindings or the books weren't what you wanted, after all."

"Don't you even know his name or what he looked like?" asked Stevens as quietly as he could. A strange fear had gripped him.

"No, I was out, you know, and Aunt Parr didn't ask him his name. She couldn't remember anything about him, except that he was young and well dressed. It was quite dark when he came."

"Did he stay long?"

"Oh, no! Not more than fifteen or twenty minutes, she said. And he was very nice. When he left he thanked her and said he'd found out what he wanted to know. He was very pleasant indeed."

"Maybe," said Stevens in a queer voice—"maybe he could afford to be pleasant." He turned and mounted the stairs, three at a time.

"Did we do wrong to let him in? Oh, I hope we didn't do wrong!" she cried after him.

But he did not turn. She heard him open his door and close it sharply.

"If we did I'll never forgive myself —never!" cried Miss Melinda miserably, wringing her hands. "I just know something terrible has happened. When I said that young man had been in his room I could see all the muscles in his throat tighten up."

"Put on a red flannel bandage," advised Mrs. Parr, who had come in from the porch, "and rub it with goose-grease."

Up-stairs Stevens was making frantic search through his desk, turning out pigeonholes and drawers and sorting their contents; shuffling over piles of papers, expecting every minute to discover that some important document was missing.

But everything was intact, exactly as he had left it. Not even a blotter was out of place. He began to breathe more freely. Perhaps he had been mistaken, after all.

He had locked the desk when he went away on the short-line job, and again when he had used it on his flying trip home. Apparently it had been untouched since. He gave a sigh of relief. He had been needlessly alarmed.

He was about to close the lid, when something bright and shining caught his eye.

He bent to examine it more closely. Then, with an exclamation, he straightened up and reached for the electric side light on the wall directly above him.

He turned the switch. In the added illumination he leaned over the desk again.

He was still intent on his discovery when the door opened and Sandy entered.

That young man's face wore an angry expression, which contrasted strangely with the wistfulness of his brown eyes.

"What's this I hear about your being fired, Jack?" he demanded before he was well inside the door. "It can't be true, can it?"

Stevens ignored the question, or, rather, he did not even hear it.

"Come here, Sandy, and see what you make of this," he said, pointing to the desk.

He moved a little to one side, and Everett stepped forward and scrutinized the spot which he had been examining.

On the edge of the brass lock-plate a number of small scratches were plainly visible, showing distinctly against the dull background of the worn metal. There was a rather deep dent in the woodwork of the desk at the side of the plate.

"H-m!" mused Sandy. "Make of it? Well, it doesn't need *Sherlock Holmes* to figure out that some one pried up the lid of your desk on the left of the plate there and held it braced while he inserted a small pair of pincers and closed the jaws of the lock."

"My theory, exactly," nodded Stevens. "Some one opened this desk and went through it — without taking anything away, so far as I can determine. Now, who was it — and what did he want? You can have three guesses."

"Two will do," said Sandy. "It was Marmy. He wanted to get a line on some of your drawings. I—"

"Hold on!" Stevens flashed forward and caught his friend's wrist, jerking him away from the desk so suddenly that he was nearly upset.

"What's that for?" Sandy wanted to know in an amazed and injured tone. "Leggo my hand."

"All right. Sorry if I hurt you; only I didn't want you to touch that paper-weight."

Stevens pointed to a rectangle of transparent glass, on the under side of which was etched a picture of "Baby Elephant," one of the great mogul engines which drew No. 17 and No. 34, the biggest and most luxurious trains on the S. F. and N. Y.

"Why not? Baby won't bite, will she?" Sandy inquired, nursing his abused wrist. "Gee, but you've got some grip, Jack!"

"No, Baby's gentle enough. But I happened to be standing a little to one side, and I got a glancing view of the top of that glass. There's a smudge on it that looks like a finger-print, and it may give us a clue if it is. I'll have a photograph made of it, and—"

"Poppycock!" exclaimed Sandy.

"It may be, and then again it may not. There's a good chance it isn't; and I'm going to find out. The last time I had the desk open I polished that weight with a piece of chamois, and I haven't had my hands on it today. Somebody has touched it—and I'll bet it's the same somebody who wanted to give me a set of technical books for a birthday present."

He inverted the top of a box over the paper weight, and closed the lid of the desk.

CHAPTER XV.

"What Chance Have I Got?"

"WELL, now, suppose you answer the question I asked when I came in?" suggested Sandy. "It was all over the office that you had a run-in with Chatty Charlie this morning and got thrown out."

The ringing of the dinner bell prevented Stevens from replying, and it was not until after the meal—a rather mournful one, as both young men were absent-minded, and Miss Melinda was on the verge of tears—that he was able to tell his story.

As succinctly as possible he related what had happened in the general manager's office, sticking closely to facts and omitting his personal opinions.

"It seems to me," he finished, "that there is just one explanation to all this. Robinson found out, in one way or another—just how doesn't signify—that I had been working on an invention of some sort.

"He promptly ran to Chatterson with the information, and Chatty immediately scented possible profit in it and set Marmy or somebody else to look into details. I was out of the way and it was no trouble at all to have my desk moved to that little office at the end of the hall, where my things could be examined at leisure. You say that you don't know when they moved it. I don't either. When I came down for the week-end some time ago I didn't go to the office at all.

"They opened the desk, got a line on what I was doing, and Chatterson thought well enough of it to make a strong play for its possession. I don't know how much he knows about mechanics, but he has plenty of heelers who could put him wise. Certainly he must be aware that one big American railroad system has a standing offer of ten thousand dollars for a practicable device of the kind, and there are any number of other roads that would give any amount more. If the thing could be depended upon to work it would be almost priceless.

"The main thing, however, is that he made up his mind to get it away from me; and on the chance that I might not fall for his idea of handing it over without kicking, he cooked up this forged contract.

"That young cub Flint is a notary public; and, if Chatterson told him to, he'd swear the moon was made of green cheese.

"I imagine that Chatterson thought I'd cave in when he showed me that assignment. Whoever wrote my signature on it did a mighty clever job. But when I repudiated it and refused to scare, he took a little time to think it over, with the result that, this morning, he had another gun ready for me.

"His statement that Marmaduke Robinson made the original drawings for the signal is too preposterous for any one to believe, and he knows it; yet he sat there with a perfectly grave face and accused me of getting them out of Marmy's desk and making copies of them."

"Marmy!" exploded Sandy. "Why, he couldn't draw cards in a

poker game. The only thing he's got brains enough to invent is a cotillion figure or a new fancy waistcoat. And Chatty had the nerve—"

"He did," said Stevens. "He had it not once, but several times. He poured words, words, words, and yet more words over me until I felt as if I were being drowned in a sea of verbiage.

"When I'd refused his bribes and practically told him to go to the devil, he sprang this threat of arrest on me; told me he was going to have me watched and dared me to go to Dean or any one else."

"But you're going, aren't you?" asked Sandy.

"I am—the first thing to-morrow morning."

"What have you got up your sleeve? You look mad and bad and sad, Jack; but you don't look as if some one had uncoupled you from the train of hope and left you sliding down the grade. Out with it!"

Stevens smiled.

"Fact is, I *have* got a card under my cuff, Sandy," he admitted. "That stuff I had down in the office was fairly important; that is, anybody with brains and a knowledge of mechanics could probably dope out my idea from it, but all the links weren't there. That's the reason a call was paid me here while I was out, I fancy. Whatever information was lacking my friends hoped to be able to find in this desk.

"I don't know how much they really needed it to have the thing complete, or how much good it did them; but I do know that I applied for a patent on the device some time ago. You remember when I came home for the week-end? Well, it was shortly after that. I collected all my traps and took them back to camp with me, put them in shape there and made my application as soon as I could. I ought to hear from it any time now.

"As soon as it's granted, Dean and I will give Chatterson a bigger run for his money than he expected. That's why I'm not as upset as I might be. Once let me get that patent and we'll have something tangible with which to work.

"Good!" exclaimed Sandy. "I knew there must be something, or you'd be tearing your hair out. Come in," he added, as a knock sounded on the door.

Mrs. Parr entered, carrying a couple of letters.

"Both for you, Mr. Stevens," she said. "They were down on the hall table. Miss Melinda thought maybe you'd overlooked them. She asked me to step up to the door with them, as she's gone to bed with a headache."

"I'm sorry to hear that. But thank you very much, Mrs. Parr," Stevens hastened to say. "It is very kind of both you and Miss Melinda—very kind."

"Nothing of the sort!" said Mrs. Parr sharply. "Why should she be out of her mind?"

"Mostly because she has you around so much," Sandy offered as the door closed behind the dumpy figure. "Did she say they were both for you, Jack."

Stevens had dropped one letter on the table, and was tearing open the envelope of the other with fingers that shook a little.

"From the Patent Office," he said. "Now I've got 'em, Sandy!"

He turned on another light. A moment later the envelope fluttered to the floor and lay unheeded on the rug. Stevens stood perfectly still, staring down at it with eyes that saw nothing.

"Sandy," he said in a voice that was not quite steady, "they've denied the application on the ground that a patent for an identical device has already been issued to Marmaduke Robinson, of the San Francisco and New York Railroad."

"The devil!" ejaculated Sandy blankly. "That means that Chatterson beat you to it—got his application in first!"

Stevens turned and stepped to the window. For a long time he stood looking out at the quiet street. When he spoke again his voice was toneless.

"They jockeyed me out of my job," he said; "but I don't care about that. I can get another job; just as good or better. But what about my signal? What about the years of study and thought and hard work I put into it?

"It meant a heap to me, Sandy—a good deal more than just the money it would have brought me, though that would have been welcome enough. It was something I made myself, without help from any one. I put my brain, my heart, my very soul into it. It was almost part of me. I've gone without sleep to get time to work on it. I've gone without clothes and comforts to get the money to pay for having the models made. It was good—I knew it was good. I succeeded where other men had failed, and I didn't ask any odds of any one to help my success. It was mine—all mine—and I valued it more than anything else on earth!

"And now I've lost it. They've got it—and they mean to keep it. They've got a signature that, if I didn't know better, I'd say I wrote myself, on a paper that gives up all right and title to any invention. They've got witnesses who'll swear I signed that paper.

"And, more than that, they're ready to swear I stole the idea in the first place from Robinson, who never had an idea in his life. They've got my drawings and models — they've got copies they made from them, and they'll swear the copies were the originals. I never showed mine to anybody, even to you. If I had, you could help me. But you saw only that one cross-section — similar to the one you saw in Robinson's office. You never even knew how the thing worked. I was jealous of it, Sandy—I wanted to keep it all to myself. And now I haven't a bit of evidence.

"They have. They've got all kinds of evidence against me. They've got millions of dollars; I haven't got a cent; they've got the best legal staff in the world. If I make a move to get a lawyer they'll clap me in jail for larceny. What chance have I got?"

"About as much as a snowball in an oven," estimated Sandy gloomily.

CHAPTER XVI.

Another Blow.

"I'LL get it," Sandy said confidently. "If not to-day; then, to-morrow. But I'll get it. Diplomacy, my son, diplomacy!"

He clapped his straw hat on the back of his head, where it seemed to cling precariously to his straggling hair, and started down the porch.

"By the way," he added over his shoulder, "what are you going to do this morning?"

"Going to see Dean," returned Stevens. "He won't be at his office until ten o'clock, though, and there's no use of my going in before the nine-five."

"You're all right!" cried Sandy enthusiastically. "Don't let 'em raise you out! But be careful! I don't believe Chatty Charlie really has any one watching you; but it would be anything but cheerful if he had you gathered in just outside Dean's door."

"Oh, I'll be careful," promised Stevens. "That was just a bluff of his, though. He doesn't expect that I can see through it. To take a step like that would be to invite an investigation, and if he did put me in jail he couldn't prevent my seeing Dean there. He relies on scaring me sufficiently so that I won't do anything. Better run along now or you'll miss your train.

"And, Sandy, don't joggle that box. I packed the paper-weight as carefully as I could, but we don't want that print blurred. And when you see Marmy, pay special care—"

"It wasn't a special," broke in Mrs. Parr's voice from the doorway. "It was the regular train. An awful

thing. Four dead, and they say another can't live. All New Yorkers. Don't you want to look at it?" She held out the morning paper as she spoke.

"I should think they'd take better care on that railroad of yours, I should."

Stevens glanced at the flaring headlines of the article that took up a goodly portion of the front page. Another serious wreck. A rear-end collision. Sleepers, too, besides the day-coaches.

"They had 188 in two sections last night, Sandy," he called, running his eye down the column, "and Jenkins, on the second, ran by the red in the fog and smashed into the hind-end of the first. Hot box held Stimson up, and there were four killed outright. One injured. He—" His arm fell suddenly to his side. "He was Andrew Dean, Sandy, and he was seriously, perhaps fatally injured!"

Sandy started back to the porch, but Stevens waved him away.

"Go on and catch your train, Sandy. I've got to think this thing out alone." Stevens turned and entered the house.

Andrew Dean, on whom he had pinned his hopes, injured in that wreck! It seemed the very irony of fate. One by one the props had been cut from beneath him, until now the last one was gone.

He had been so sure that the great lawyer could and would help him; but Andrew Dean was lying helpless in a hospital, with broken ribs, a broken arm, and a possibly fractured skull. Even if he recovered—which, said the report, was doubtful—it would be weeks or months before he could attend to business. It seemed as if malicious chance were playing directly into Chatterson's hands.

"Poor old Dean!" murmured Stevens to himself. "How the rascal must have chuckled when he saw that report!"

The elimination of the lawyer from his plans threw everything into chaos. Dean would have believed his story; but what stranger would? True, he had a perfectly clean record, and his father had been a well-known and respected citizen; but any one bringing such serious charges against a man of Chatterson's wealth and standing would have to produce strong evidence in substantiation of them before any credence would be given. And produce evidence was just what Stevens could not do.

Whereas—he realized it fully—Chatterson had what looked like conclusive proof of the falsity of the allegations, and could tell a very plausible story of the double dealing of his former employee.

For a long time Stevens sat in his chair by the window, his head in his hands, turning the problem in his mind, trying to study it from all angles. At length, with a sigh, he admitted to himself that Sandy's estimate of his chances had been conservative.

The general manager held all the trumps. He was powerful; he would be backed by all the millions of the railroad and supported by its incomparable legal department. To attempt any move against him would, under the circumstances, be worse than foolish. It would be suicidal.

"I've got to go it on my own," Stevens said aloud. "No one except Sandy can help me, and he can't do very much. But"—he raised his head and his jaw set squarely—"I'm going to win out if it takes my life!"

He picked up the communication from the Patent Office and read it again with a bitter smile on his lips. His patent—his work—the dearest thing in life to him! And they had stolen it as ruthlessly and with as little compunction as if it had been the veriest trifle!

For years he had planned and dreamed and toiled over it; and now, just when he was about to reap the reward of his labor, it had been filched from him!

Stevens picked up the paper and perused the account of the accident to No. 188.

Running in two sections, the first, in charge of Stimson, engineer, and Brierly, conductor, had been held up by an obstinate hot box.

All the usual precautions had been taken; torpedoes were placed on the rails, and a brakeman had gone back to signal Jenkins, the engineer of the second section. There was an unusually thick and heavy fog, but no special apprehension was felt.

And yet, in spite of everything, the trains had collided when the second section was running at a speed of thirty-five miles an hour!

Jenkins, who had miraculously escaped fatal injury, was in a state of collapse; but he had declared repeatedly that not only had he heard no torpedoes, but had seen no signals.

So dense was the fog that the red semaphore lights had been invisible to him, and he had seen nothing of the brakeman's lantern.

"If my signal had been in use this wouldn't have happened," Stevens said to himself. "Jenkins could have been deaf, dumb, and blind; he could have dropped dead at his post, but as soon as he ran past that arm set against him my signal would have operated automatically."

Tucked away in a corner of the page was a little item to the effect that the new short line of the San Francisco and New York was nearing completion, and that trains would be run over it in the course of a few weeks.

"The work is in charge of Superintendent Herbert P. Collins," read the notice, "who is highly spoken of by the railroad officials for the clever and expeditious manner in which he has handled a more than usually difficult piece of construction and engineering. Charles Chatterson, general manager of the road, is the 'man behind the gun' who made the short line a practical fact instead of an impractical theory."

So they had stolen the credit for that achievement, too! Collins had never even seen the short line until the work was so far completed that any reasonably bright engineer could have carried it to a successful ending; and Chatterson had had nothing, literally nothing, to do with either its conception or execution, except as he had advocated it before the board of directors.

Stevens wondered bitterly if, when they had done with him, they would leave him anything at all. It did not seem to him possible that there was anything more of which they could rob him.

But there was.

Although he did not know it, at that very moment he was being despoiled of something even more valuable than the things he had already lost—his good name.

CHAPTER XVII.

Judge Lester Makes an Offer.

Friday Morning.

DEAR MR. STEVENS:

If you have no other engagement father and I would be very glad to have you dine with us Tuesday evening at seven o'clock. It will be quite informal.

Sincerely yours,
RUTH LESTER.

IT was not until late Monday evening that Stevens found the note—written on prettily monogrammed paper in a clear, plain hand—on the littered table in the sitting-room.

He recalled dimly that Mrs. Parr had handed him two envelopes on Friday night, when she brought up the mail at Miss Melinda's request; but he had been so interested in the letter from the Patent Office that he had quite forgotten the other, and it remained unopened for three whole days.

Ruefully he turned it over in his hand. What could he do about it? He could not truthfully plead another engagement, for he had none. Little as

he felt like going out to attend a social affair, courtesy to Judge and Miss Lester required that he should accept the invitation. It was too late now to write and make excuses.

Sandy, too, was determined that he should go.

"It will do you good, Jack," he insisted. "This business has been getting on your nerves and you need a little recreation. Go out and chase your goat; perhaps you can get him back again. Have the best time you know how, forget Chatterson for a few hours, and maybe when you get back I'll have some news for you."

Accordingly, sorely against his will, Stevens presented himself at the Lester home a few minutes before eight on Tuesday evening.

Judge Lester led the way into the drawing-room; a moment later Ruth entered. Dressed in a simple gown of some soft, pale-green material, her hair piled in dusky coils, she looked older than she had on the only other occasion on which he had seen her.

Then he had supposed her to be not more than nineteen; now he would have said twenty-four. But she was none the less lovely for the added years. Her poise and self-possession were charming to see.

She sat opposite her father at the dinner-table. Nobody could have been a more perfect hostess. Yet, all the while, Stevens had the impression that under her gracious, easy manners lay a certain immaturity—not of mind, surely, but immaturity, nevertheless.

It was as if a lovely child were hidden beneath the womanly exterior, peeping forth quickly and mischievously now and again.

As the meal progressed, Stevens exerted himself to throw off his despondency and enjoy himself to the full. Judge Lester was a courtly host; the dinner was excellently cooked and well served. There was not the slightest constraint; everything was delightfully homelike; and the guest soon found himself responding to the sallies of the judge and joining in the conversation with a zest that surprised himself.

There was no mention of business until Packard—a far different Packard than he who had tremblingly descended the stairs to aid in subduing the burglar—brought in the coffee and cigars.

Then Judge Lester, pushing his chair back a little and selecting a rotund perfecto, casually alluded to Stevens's work.

"I noticed in the paper Saturday that a man by the name of Collins is finishing up the short line job," he remarked. "I suppose you've got your hands full here. After that accident, they wouldn't let you go back. Of course"—there was a twinkle in his eye—"if you'd not had a substitute in your place as eastern superintendent, there wouldn't have *been* any accident!"

"Of course not!" chimed in Ruth roguishly. "And now that he's on the ground, there will be no more disasters, will there, Mr. Stevens?"

Stevens took the lighter Packard was holding and lighted his cigar.

"I am not with the S. F. and N. Y. any more," he said; and the admission cost him a pang.

"Not with them?" the girl exclaimed. "Why, I thought you were a fixture there. What ever made you leave? I understood—"

"Ruth, my dear, aren't you a little inquisitive?" expostulated her father gently.

"I beg your pardon, Mr. Stevens," she said hastily. "I did not mean to be rude. But—"

"Please don't apologize," he interposed. "There's no secret about it. I resigned because of a difference of opinion with the general manager; or, rather, I attempted to resign, but he preferred to discharge me. It had nothing to do with the accident, which occurred after I left."

"Then you've severed all connection with the road?" queried the

judge. "Pardon me if I seem inquisitive, too, but I understood that you were an old and valued employee."

"Old, but not valued, apparently," Stevens returned. "When I came out of 'tech' I got my first berth with the S. F. and N. Y., and was employed by them up to last Thursday—something over ten years. But, at the present moment, you behold before you a young man out of a job—and likely to stay out, from present indications."

He spoke lightly, but there was an undercurrent in his voice which did not escape the keen ear of Judge Lester.

"Mr. Chatterson is a newcomer with the road, isn't he?" asked Ruth.

"Comparatively, yes."

"And you've been there ten years. Why don't you see President Mercer? He's a dear; and just a little while ago he told father—" She stopped abruptly, as the judge's eyes met hers.

"I had thought of speaking to him," Stevens said musingly. "But, you see, Miss Lester, I was only a minor official of the road, entirely subordinate to Mr. Chatterson. The president would hardly be likely to interest himself in my grievance. Still, under the circumstances—"

After all, why not? Mercer was a just man, albeit a somewhat unapproachable one. He would not refuse to listen. Yet what evidence could be shown him in support of the allegation that his general manager and eastern superintendent had successfully carried out a conspiracy against a former employee? The story was too fantastic to carry to him unless there were some chance of proof.

With a start, Stevens realized that the judge was speaking.

"Suppose we finish our cigars on the veranda, Mr. Stevens? It is cooler there. Ruth, my dear, how about a little music?"

"With pleasure, if Mr. Stevens would like it," acquiesced the girl.

"I should like nothing better!" said Stevens warmly. He followed the judge out to the veranda and took a comfortable chair. A moment later the notes of the "Moonlight Sonata" stole through the scented dusk, soft, lingering, exquisitely sweet.

"Mr. Stevens," said Judge Lester presently, "will you forgive an old man for what may seem like unwarrantable curiosity? I want you to tell me more about this 'difference of opinion' which led you to leave the San Francisco and New York, if you will. I don't mean to pry into your private affairs; but the little you said interested me. I should like to know more, if you will not think me intrusive."

"I will tell you gladly," said Stevens; "but I can hardly expect you to believe me. When I have explained to you just how the matter stands, I thinks it will be clear to you why it would be useless for me to go to President Mercer, just yet, anyway."

Simply, directly, Stevens told his story. Judge Lester listened intently, now and again stopping him to ask some pertinent question.

Long before the recital was done, the music ceased; but Stevens did not hear it, nor was he aware that Ruth Lester had come out on the porch and was leaning over the back of her father's chair.

"And what do you mean to do?" queried the judge, when Stevens finally paused.

"Fight!" was the instant response. "Fight until I drop! They weren't content with stealing my invention and taking away my job; they've robbed me of my good name. Yesterday I went to three different railroad offices. At the first two, they turned me down promptly, without any explanation; but at the third, I saw the superintendent. He used to be an acquaintance of mine, and always seemed very well disposed toward me.

"He said he had no opening for me at present, and I wanted to make out an application for filing. Then he told me bluntly it was no use; the word had been passed around that I

wasn't to be taken on under any circumstances, because I was dishonest. I'm blacklisted."

"What a shame!" Ruth burst out. "Such things are a disgrace to civilization! I didn't think they could happen in the twentieth century!"

"My dear, the twentieth century differs from the stone age only in the refinement of its methods," remarked the judge dryly. "A few hundreds of years ago, if one man had anything a bigger or more powerful man coveted, he was quietly knocked on the head with a club. To-day, his means of livelihood are taken from him, which is less crude and direct, but quite as efficacious."

"But, surely, there ought to be some way that you can get justice, Mr. Stevens?" said the girl. "If President Mercer or the directors knew of this they would never permit it! Why, it's simply infamous!"

She struck her hands smartly together. Her eyes were very bright and shining; her color was high.

Stevens, looking at her, experienced a thrill of pleasure that she was indignant for him, that she was thus stirred because of the wrong that had been done him.

"Yes," he replied, "if Mercer or the directors *knew*, they would be on my side, I am sure. But they don't know. To ask them to accept my story, with no proof other than my unsupported word, would be taxing their credulity, to say nothing of their faith in me.

"Suppose you were Mr. Mercer, Judge Lester"—Stevens turned to the judge—"what would be your attitude—especially if you had been approached beforehand by Mr. Chatterson, in whom you had the utmost confidence?"

"At least, he would listen to you!" declared Ruth. "He would give you a chance to present your side of the case. And so would any one! Father, don't you think that Mr. Stevens owes it to himself to see the directors? It would be easy enough to get to them. Why, you could—" Her father's hand closed over hers emphatically and she stopped in the middle of the sentence.

"I am inclined to agree with you, Mr. Stevens, that an appeal to the powers that be would be quite futile, until you have something with which to back up your statements. Now, if that finger-print clue turns out to be of any value, it will give you a working basis. But, even if there is nothing in it, don't get discouraged, and don't give up trying."

"I don't mean to," Stevens assured him.

During the remainder of his stay, Ruth was rather silent, sitting with her firm little chin resting on the palm of her hand and gazing out across the shadowy lawn. When Stevens rose to go, she bade him good-by with a frank, friendly smile.

"Come again soon, and let us hear how you are getting on," she said. When Stevens departed, Ruth turned on the judge.

"Daddy Lester, what did you mean by shutting me up that way?" she demanded. "You know Mr. Mercer and every one of those old fogies on the board of directors. You could easily have spoken for Mr. Stevens and asked them to give him a hearing. Why didn't you tell him that you would?"

"My dear, what guarantee have I that the young man was speaking the truth?" inquired the judge mildly. "He may have been romancing for all I know. I—"

"Father!" She seized him by his coat lapels and gave him a little shake. "You *know* he told the truth! Why, every word he said was sincere! Any one could have seen that! And his eyes—"

"Ah, yes!" interrupted her father. "His eyes! The nice blue eyes of a nice young man! So they won you over to his cause, did they? I tell you, blue eyes are the very deuce and all

with the girls! Well, he's lucky in having such a stanch advocate. It's too bad I'm not young and impressionable, too, isn't it?"

"Father! That is too horried of you!" She was blushing under his quizzical gaze. "But—you *will* do something for him, won't you?"

The judge disengaged his coat lapels, which seemed in some danger.

"My dear," he said, putting his arm around her and leading her toward the door, "I have a strong suspicion that young Mr. John Stevens is quite able to help himself. He hasn't got that jaw for nothing. I shall be curious," he added musingly, "to learn just how he does it."

"Does what?" asked Ruth.

But the judge was busy securing the fastenings of the front door, and pretended not to hear her.

CHAPTER XVIII.

A Clue—and a Bitter Pill.

OPENING the door of the sitting-room, Stevens was greeted by an uproarious yell from Sandy, who projected his amazing length across the room, as if he had been shot from a giant crossbow, and indulged in a fantastic dance around his friend before grasping him by the arm and dragging him over to the table.

"Behold!" He pointed to several slips of paper and a couple of blotters arranged in a neat row across the table-top. "Gaze upon the results of my labors. Didn't I tell you so? Didn't I say—"

"You said 'poppycock' and nothing else," interrupted Stevens, ruthlessly cutting short the pæan of self-praise Sandy was singing. "I said—"

"Yes, maybe you *said;* but *I did!*" rejoined Sandy triumphantly. "Not for nothing did I matinée two successive Saturdays at the feet of the master detector of crime. I did it with my little leaky fountain pen."

"Your logic is a trifle shaky," Stevens said, "but I'll forgive a good deal for this."

He picked up one of the blotters. Half a dozen inky marks showed on it, some blurred and smeared, others clear and definite of outline.

"Where's the print?" he asked. The grinning Sandy handed him a card on which was mounted a photograph of the finger-print taken from the paper-weight, a curious little whorl of curved lines.

Eagerly Stevens compared the two; then he took up the other blotters and the slips of paper, scrutinizing each in turn. Again he picked up the first one, and examined it with the aid of a powerful microscope which he took from a drawer in his desk.

"This is it," he said. "And this isn't mine or yours. It's—"

"Marmy Robinson's," finished Sandy. "I made sure of that before I developed this spasm of hilarity."

Stevens put down the papers and drew a long breath.

"Thank Heaven!" he said. "Now we've got something tangible. How did you manage to get it, Sandy?"

"Easiest thing in the world. Wrote a letter to Purcell, out on Division B, and waited until Marmy was going by the office. Called to him and asked him to sign it. I said I thought it would have more weight if it came from the Eastern super. The insect was flattered—as I knew he would be.

"Gave him my pen, having previously loosened the barrel and carefully smeared it with ink. Fingers all smudged up. Oh, so sorry! Do let me get you a blotter, Mr. Robinson. Mr. Robinson obliged—and there y' are. Rather, there *he* was!

"By the way, Jack, did you ever stop to think what an awful come-down it is from that aristocratic 'Marmaduke' to a mere plebeian 'Robinson'? Think how his feelings must be lacerated every time any one speaks to him!"

"I did a little lacerating myself last Friday," said Stevens reminiscently.

"Friday — Friday," mused Sandy. "Wasn't it Friday I met him in the corridor? Jack," he almost shouted, "was that your fine Italian hand?"

"Both of them," chuckled Stevens. "How did he look when you saw him?"

"Out of one eye only. Had the other one painted up to-day; but it sure is a shiner! You did a beautifully artistic job. Now, then, what's next?"

Stevens thrust his hands into his pockets and tilted back on his heels.

"Next I pay a call on President Mercer and a couple of the members of the board," he said. "I've been thinking it over, and I've decided to lay the matter before the president and see if he won't take some action. He's a decent old chap. I believe he'll give me a square deal."

Sandy shrugged.

"He's more likely to give you a wide berth," he said cynically. "Mercer's decent enough, but he hasn't the backbone of a grasshopper. If he had he'd never have stood for Chatterson in the first place. They needed that dinky little Western road, all right; but they could have made lots better terms if our friend Mercer hadn't gone and lost his nerve.

"And the old S. F. and N. Y. hasn't been the same since they changed general managers. Before that deal it was a real railroad, with real men in control; now it's nothing but an eleemosynary institution run for the benefit of Chatty's indigent relatives. And I'm not the only one that says so.

"If Mercer would only wake up! But nothing short of dynamite will open his eyes. He thinks Chatty is the sun, moon, and stars; and he wouldn't hear a word against him. Much chance you've got!"

"Do you mean to say Mercer would stand for this steal?" demanded Stevens. "That, if he knew the facts, he would uphold Chatterson?"

"No, not if he knew the facts," Sandy returned. "But he's had an entirely different set of 'facts' poured into his ears. I say poured advisedly, because I have listened to Chatty myself when I couldn't get away. If you could persuade Mercer to give you an interview, you might stand a show; but I'll gamble he won't see you. The old fellow is as independent as a hog on ice when he wants to be."

"Nevertheless, he'll see me, if I have to camp on his trail from now until doomsday," declared Stevens stubbornly. "I can do that refrigerator stunt myself. To-morrow morning I'm going to show him a picture of Mr. Robinson's visiting card, thoughtfully left on my paperweight by the owner, and perhaps that will give him something to think about."

"Well, I wish you luck, Jack." Sandy's tone was hopeful but skeptical. "Only I'll bet a bean I get a chance to say 'I told you so' to-morrow night."

"Take you," said Stevens promptly.

But he was far from feeling as confident as he looked when, the next morning, he walked up to the sharp-eyed young Cerberus who mounted guard in the anteroom and sent in his card to the president.

"Mr. Mercer's busy; can't see you, Mr. Stevens," was the report.

"Then I'll wait until he's at leisure," said Stevens, sitting on a settee and picking up an illustrated paper from the pile on the table.

The boy eyed him dubiously.

"I think he's likely to be a long time," he ventured.

"I'm in no hurry."

"I—I don't think you'd better wait, Mr. Stevens."

"Don't you?" Stevens asked.

The boy hesitated. He liked John Stevens, but he stood in awe of him, and he had no wish to commit anything that might be construed as an impertinence. Finally he blurted out:

"No; I don't sir."

Stevens looked up.

"Why, Billy?" he asked.

"Because he's — he's awfully busy, and he said he couldn't see you."

Stevens considered a moment.

"Well," he said, "suppose you go in and ask him when he will be disengaged. Tell him I want to talk to him on a matter of great importance, and that I shall be glad if he will appoint a time for a short interview. Any hour that will suit him will be convenient for me."

Again the boy disappeared into the inner office. An instant later the door opened and the president appeared. He was a tall, white-haired man with very regular features, and he walked with a little stoop.

Stevens rose with alacrity and took a step toward him; but the president held up a long white hand.

"Mr. Stevens," he said in a thin voice as cold as his face, "I sent you word that I was too busy to see you this morning. I want to supplement that message so there may be no misunderstanding on your part. I am always too busy to see you. Please do not importune me further."

"But, Mr. Mercer—"

"You heard what I said. I have neither the time nor the inclination to listen to you. Good morning."

"I am asking only for justice, Mr. Mercer," Stevens began, but he stopped as the door of the private office was slammed shut with decision.

Outwardly calm but inwardly raging, Stevens went out to the elevator and rode up to the seventh floor, where Daniel Grosscup, chairman of the board of directors, had his offices.

Mr. Grosscup, a shrewd, hard-headed business man and a smart lawyer, was Judge Lester's law partner.

Stevens sent in his card; but again he was doomed to disappointment. He was unknown to the red-headed office-boy, who, therefore, was at no pains to alter Grosscup's message before presenting it to the caller, whom he took to be some objectionable.

Two other directors, Robert Melville, the president of a national bank, and William Evans, head of a giant corporation, sent equally plain refusals to see him. Finally, in despair he gave up the attempt to reach any of the board.

Unquestionably, the far-seeing Mr. Chatterson had communicated with all of the members; they had been warned not to receive him.

He, John Stevens, who but a short time before had been pointed out by the president as the "smartest young construction engineer and superintendent in the employ of the road," was treated as if he were a panhandler!

It was a bitter pill for him to swallow; but its very bitterness acted as a tonic. They had robbed him of everything he possessed and had figuratively kicked him into the gutter; but he had no intention of staying there.

His fighting blood was up. He set his teeth and squared his big shoulders as he told Sandy of the fruitlessness of his errand.

"There's my stake." He tossed a white bean on the table. "And you can say 'I told you so' if you want to; but, by all the gods, I'm going to win out!"

CHAPTER XIX.

At Judge Lester's.

IT was the following Monday evening before Stevens felt that he could conscientiously accept Ruth Lester's invitation to call. His acquaintance with her being so slight, he did not wish to appear to presume upon it; and the very fact that he wanted so much to see her again led him to delay longer than ordinarily he would have done.

He had rendered the judge a very great service; for that reason, if for no other, he would be welcome; but, singularly enough, he found himself wishing that some one else could have been present to strike up the burglar's arm, and that he had met Miss Lester under different circumstances.

He had encountered her on the

street twice during the week. Once she had paused to chat for a moment. She was charmingly friendly; but the thought that had she not felt under obligations to him she might not have been so gracious would obtrude itself to temper his pleasure.

When he saw her on Monday afternoon, however, as she was alighting from a trolley-car at the junction of the main street and the Boulevard, he hastened forward and assisted her. She smiled her thanks as he took her rose-colored parasol and opened it for her.

"I've been wondering how soon one could decently make a dinner call," he said.

"As soon"—she took the parasol from him—"as one wanted to, I imagine, Mr. Stevens."

"And one would not be thought an unmitigated nuisance if one selected the nearest Monday evening, for instance?"

She tilted the parasol over her shoulder. The light that filtered through the rosy silk cast a delicate glow over her face.

"On the contrary," she said. "Monday is a perfectly good evening. Do come!"

And he went!

Courtesy demanded that he should ask for Judge Lester, but did not prevent him from being unaccountably glad when Ruth came down alone.

"Father has gone to play pinocle with old Mr. Sawyer," she explained. "I told him you were coming. He said he was delighted, because it gave him a chance to get out for a few minutes. He doesn't like to leave me alone all the evening, you know," she added; "although I really don't mind. But he does love pinocle. When he's sure that I'm not going to be lonely he runs away.

"Shall we sit on the porch, or would you rather stay indoors?"

"Outside, by all means. And, Miss Lester, any time your father feels an uncontrollable desire to play pinocle with old Mr. Sawyer or any one else, I shall be very glad to act as his substitute."

"In the pinocle game?" she inquired with gentle malice.

"Old Mr. Sawyer has no attraction for me," said Stevens calmly; and he had the satisfaction of seeing her flush adorably.

"I've been so anxious to hear about how you were getting on," she changed the subject hastily. "Did you go to see Mr. Mercer?"

But Stevens had no intention of talking about unpleasant things. He had come to see Ruth Lester because he felt that he could not stay away any longer; and now that he was here he meant to improve his time.

For some reason which he had not stopped to analyze he wanted her to like him. But she was not the sort of girl who likes a failure, either; and he had done nothing but fail lately. Why talk about it?

So he devoted himself to the task—not a difficult one—of making himself agreeable; and so well did he succeed that it was with unfeigned surprise that Ruth saw her father coming up the walk.

"Why, daddy, you didn't play long to-night, did you?" she said. "I never knew you to stop so early. Didn't you enjoy the game?"

"Such," remarked the judge, shaking hands with Stevens, who rose to offer him a chair, "is the devotion of my daughter to me! I hurry home, contrite because I have overstayed my usual time by half an hour, and am informed that not only have I not been missed but that I didn't stay away long enough."

"Why, father—"

"No—it is too late for you to apologize, Ruth." The judge drew forward a chair and offered his cigar-case to Stevens. "As a matter of fact"—complacently—"I beat Mr. Sawyer three straight games and I thought I had humbled him enough for one evening; so I came home to see

how my young friend has been getting on. Ruth dear, you haven't played for me this week; suppose you go now and entertain us a little while."

"Merely an excuse for getting rid of me," pouted Ruth as she rose to comply. "I'm going to have one of those what-you-may-call-'em things put out here, so I can hear what you are talking about while I play—and you *don't* listen."

She went into the music-room, and the judge turned to Stevens.

"Well, my boy, what progress?" he asked.

"Not any, sir. The clue worked out all right, but it hasn't done me any good so far. I'm just exactly where I was last week."

He then told how Sandy had secured the finger-prints from Marmaduke Robinson, and his own vain attempts to see the president and directors.

"I thought perhaps if I wrote to President Mercer, stating the facts in the case, he might change his mind," Stevens concluded; "but he simply turned the letter over to Chatterson, who wrote me that if I made just one more slanderous attack on him or his nephew he would swear out a warrant for my arrest. There doesn't seem to be any way I can get by him."

"Um," said the judge. "The thing you need is a good lawyer, Stevens. Why don't you get one to represent you? He could get in to see these people where you can't."

"Frankly, I can't afford one," Stevens confessed. "I spent a good deal of money perfecting my invention, getting my models made, and so forth; and I couldn't pay a really good man the proper retainer.

"Besides, any one who took up my side of this case would have to believe in me. That's a pretty large order, considering the charges I make and against whom I make them. I had been banking on Mr. Dean; but when he was hurt I made up my mind that I'd have to do the best I could myself.

"Still"—he smiled a little ruefully—"I'm beginning to believe in the truth of the old saying that a man who is his own lawyer has a fool for a client. Almost any pettifogger could have gotten better results out of this than I seem to have accomplished."

"Um," said the judge again. "Andrew Dean would have been the very man for you, of course; but he's laid up for three months more, at least, although he will recover from his injuries ultimately.

"Now, I suppose I could get some one to take this up for you; some man who is fairly well known and who has a certain standing in the profession. Would you be willing to accept him on my word? Of course, I couldn't guarantee that he'd be successful; but you wouldn't have to pay a retainer, anyhow, and he wouldn't charge you anything unless he was. What do you think? Would you object to my getting such a man for you?"

"Object?" exclaimed Stevens, hardly able to believe his ears. "Object? Why, Judge Lester, it would be the greatest thing that could happen to me! But," and a dubious note crept into his voice, "I don't like to ask you to do it. You've been kind enough to believe in me, but I have no right to ask you to stand sponsor for me. I—"

"Then that's arranged," interrupted the judge briskly. "And let me remind you, young man, that you didn't ask me to do it. It was entirely my own idea. I do not propose to have you arrogate any of the credit for it to yourself. I'll get you the best man I know and have him communicate with you personally. On second thought, I'll send you word myself. That's settled now."

"What is settled, father?" asked Ruth.

She stood in the doorway, the soft light from the globes in the hall falling about her. Stevens thought he had never seen any one quite so lovely in all his life.

"A little matter of business, my dear," said the judge. "If Mr. Stevens wants you to know he can tell you. It is quite his affair, not mine."

"Please want me to know, Mr. Stevens!" begged the girl. "I've just been bursting with curiosity all the evening; then father sends me away just when I expected it to be gratified."

"Your father has kindly offered to get a good attorney to handle my case for me," Stevens informed her proudly. "It is too good to be true. I can't find words to thank him, although I've tried."

"Well, don't try any more," said the judge. "I'll let you hear from me in a short time. But are you sure you'll approve of my selection? Suppose I should pick out some one of whose ability you were doubtful?"

"Oh, please!" Stevens entreated. "Any one of whom you approve will be more than acceptable to me."

He was thrilled with gratitude and filled with appreciation, and he resolutely put aside the thought that the offer had been made on account of the obligation under which he had put the judge. For more by his manner than by the actual words he had used had Judge Lester conveyed the impression that he was glad to be able to help.

Stevens was overjoyed; but he noticed that Ruth, strangely enough, did not seem to be especially pleased. Beyond a few perfunctory words, she had no comment to make. This troubled and puzzled him not a little.

Since she had displayed so much interest in his struggle to obtain justice, it seemed odd that she should display so little in the addition of such a valuable factor as a competent lawyer would be. He wondered why this was so as he walked slowly homeward; but he would have wondered still more if he could have witnessed the scene that took place on the veranda almost as soon as his back was turned.

"Daddy Lester, I am ashamed of you!" Ruth pounced upon her father, who turned to meet her attack with an air of mild surprise. "And you ought to be ashamed of yourself!"

"Why, my dear, what have I done now?" he inquired innocently.

"It isn't what you've done; it's what you've left undone! Instead of coming right out and offering to help Mr. Stevens, you hem and haw and look wise—"

"But I promised to get him a lawyer," the judge defended himself. "He certainly needs a lawyer more than anything else. What more could I do? Surely you don't expect me to go and hold up Chatterson or Mercer at the point of a gun, do you?"

"Yes—you offered to get him a lawyer!" she said scornfully. "Some stupid old man with a big reputation, and not the slightest concern about anything but his dinner! Why didn't you take the case yourself? Why don't you show a little more interest, and—"

"Because," cut in the judge, "one interested member of the family ought to be sufficient. And, while we are on the subject, you might explain all this wild anxiety on your part? Who is this young man that you should take up the cudgels for him with such enthusiasm and pitch into your poor old father as if he were a pickpocket? Is it those blue eyes again? When I was a young man no fair damsel pleaded my cause for me; I had to defend myself."

"Don't talk nonsense!" she interrupted vehemently. "Blue eyes, indeed! You know it's just because I'm—I'm sorry for him; he's been so badly treated, and he's so brave and plucky. I think you ought to help him, father; I do, indeed."

"Ah!" murmured the judge. "What pure altruism! Really beautiful to behold! She has no personal interest in this young man; she merely feels a strong philanthropic desire to right the cruel wrongs that have been done him! Who am I that I should have been blessed with such a daughter?"

"Father!" Ruth was in despair. "Why don't you be serious? It means so very much to him. If he could just see Mr. Mercer and the directors, they couldn't help believing him. Why don't you get him a really worth-while lawyer, some one that will take a personal interest and help him?"

"Because I want him to help himself. If he has the right stuff in him, as I believe he has, he'll do it," said the judge.

Then, as he saw the girl's downcast face, he added:

"And you remember I promised to get him the very best man I know."

"But why don't you take the case yourself?" she persisted coaxingly.

The judge looked down at her.

"My dear," he said coolly, "do you know of any better lawyer than your father?"

CHAPTER XX.

A Light Ahead.

STEVENS sat on the edge of the bed and dejectedly contemplated the brown leather toes of his bath slippers.

"You are by way of making an even bigger fool of yourself than nature originally intended, my boy," he admonished himself severely. "For a man in your position to become seriously interested in a girl is the apotheosis of idiocy.

"Just because she's been pretty nice to you and doesn't seem to mind having you occupy space on her front porch is no reason for you to give yourself airs and imagine she cares about you. She thinks she has to be decent to you, because you happened to be Johnny-on-the-spot once; but if it weren't for that, the chances are she wouldn't have noticed you in a million years.

"And what have you got to offer any girl, let alone one like her? A hundred dollars in bank, no job, no immediate prospect of one, and a tarnished reputation! You must think you're somebody to dream she'd bother her pretty head about you! She'd send you about your business in a second if she knew what was in your mind! And it's a mighty lucky thing for you her father isn't a clairvoyant."

The sound of footsteps in the next room put an end to his reflections, and almost at once Sandy thrust his head in at the bedroom door.

"Hello, son! Thought maybe I'd find you up. I've got news for you," he said.

"News?"

"Yep. I've yumped my yob," announced Sandy.

"Jumped your job? You don't mean—you're fired?"

"Do mean just that. Chucked—booted—hoisted out. Chief says he put a notice on my desk a week ago, but I never saw it, and I have my doubts.

"Alleged reason: reducing expenses in the department. It's a lie. I found out from Clifton that the man they're putting on is to have the same money that I was getting, and he doesn't know the first thing about the routine, either."

Stevens's face was very grave.

"I'm no end sorry, Sandy," he said.

"Of course, the real reason is plain enough. This is some more of Chatty's work. It's on account of your association with me. He knows that you are my friend, and this is just another way of trying to cripple me so that I can't fight back."

"Pleasant old devil, isn't he?" remarked Sandy. "But don't you worry, Jack. This isn't the only job in the world. I'll land something else without trouble. And as for Chatty, I have a pricking in my thumbs that he's going to get all that's coming to him.

But Sandy's thumbs seemed to be false prophets. Day after day went by with no apparent change for the better in the situation.

It also seemed that Judge Lester had

forgotten his promise to obtain a lawyer for Stevens. At first eagerly hopeful and expectant, the young man became more and more anxious as time passed and the judge failed to communicate with him.

He had not seen Ruth, except for a chance meeting on the train, when she talked to him brightly for the twenty-minute run to the city, asked sympathetically about his affairs, and never once alluded to her father or the offer he had made.

She gave Stevens a cordial invitation to call soon again at the house; but he did not take advantage of it, telling himself that, feeling as he did toward her, he had no right to see more of her than he could help until his prospects were a little brighter—if they ever were.

His small balance at the bank was diminishing with alarming rapidity, and Sandy was little better off financially. To make matters worse, business was dull; men were being dismissed rather than engaged.

Everywhere the cry was the same: "Reduce expenses!" Sandy could not seem to find any sort of a position, though he tried assiduously day after day, and after each failure buoyantly expressed his confidence of succeeding the next time.

As for Stevens himself, he knew that until he could clear his name from the cloud that hovered over it he could not hope to obtain employment in or near the city.

Without committing himself to any definite statements, Chatterson had cleverly managed to create the impression in the railroad world that Stevens was untrustworthy, and no road was willing to take on the discredited employee of the S. F. and N. Y.

Under ordinary circumstances, a man who had been as well and favorably known as John Stevens would have received a dozen offers; but that one dark blot on his otherwise spotless record was sufficient to blacken the whole.

Yet, even while he knew the search to be utterly useless, he persevered. To remain idle and sit quietly at home, waiting for something to turn up, would have driven him mad. Action, even though it led nowhere, was better than continual thinking and brooding. The worry and suspense began to tell on him physically; but each successive rebuff only gave a more determined set to his square jaw, brought a steelier glint to his blue eyes.

If the judge had forgotten him, he must get along without the judge's help. He had not asked for it in the first place; he had even hesitated about accepting it when it was offered.

Possibly the proffer had been made on the spur of the moment, and later regretted; or perhaps no lawyer had cared to take up the case.

Whatever the reason, Stevens's instinctive shrinking from even seeming to remind the judge of his promise was an additional factor in keeping him away from the Lester house. He would not appear in the guise of a mendicant. But, with the judge's help or without it, he meant to win—or die trying.

One plan after another he considered and discarded as impossible of execution. And then, one afternoon, an item in a New York paper spurred his tired brain to renewed effort.

It was merely a notice of a meeting of the board of directors of the San Francisco and New York Railroad; but the reporter had appended a paragraph, which brought Stevens to his feet with a roar of rage. The item read:

> Chairman Grosscup refused to talk, but he would not deny that the directors intend to discuss plans for equipping the S. F. and N. Y. with a new safety device, the rights of which have recently been acquired by the road. It is understood that the basic patents are the property of Mr. Marmaduke Robinson, in whose fertile brain also originated the idea for the automatic switch-closing mechanism. Both of these inventions were turned over to

the road by Mr. Robinson, and have since been perfected and patented. The switch-closing mechanism is already in operation; and with the installation of the new signal device, the S. F. and N. Y. will be the safest road in the world on which to travel.

In a voice that trembled with anger Stevens read the paragraph aloud to Sandy.

"That meeting is on Saturday morning at eleven o'clock," he said. "This is Wednesday, and I've got just two days in which to do something. It's too late to start anything to-day, and that leaves me only Thursday and Friday. They're going to instal my signal, Sandy—my signal! And those scoundrels are going to reap the benefit of it if I don't stop them! I've *got* to stop them! I *will* stop them!"

"Yes, sure you will," assented Sandy. "But just how are you going to do it?"

As if in direct answer to his question, there came a knock on the door, and Stevens, dropping the paper, opened it. Mrs. Parr stood outside.

"A messenger-boy just brought this," she said, holding out a small sealed envelope. "It's addressed to you, I see, Mr. Stevens. I signed for it."

Inside the envelope was a clipping of the very notice he had just been reading, and on the margin in Ruth's handwriting:

"Why don't you go to that meeting and *stop them?*"

"Well," said Sandy, when Stevens had stood for fully two minutes staring at the strip of paper in his hand, "I just asked you how you are going to stop them. It seems to me that's a pretty large order, and if you don't watch out you'll find you've bitten off more than you can chew."

But Stevens did not answer. In imagination he was back on the veranda at the Lester house. The judge had just asked Ruth to play for them, and the girl was jokingly protesting against being banished. Stevens could see her lovely, piquant face and hear her voice. He remembered clearly the very words she had used, and those words gave him an idea.

"By Jove!" he ejaculated slowly. "By the immortal Jove, I've got it at last! Chatterson himself will do the trick for us, I believe!"

"Elucidate, please. What is Chatterson going to do?"

"Convict himself!"

"Eh?" Sandy sat up a little straighter and blinked rapidly. "What's that? Convict himself? How are you going to make him?"

Stevens drew up his chair and sat down astride of it, resting his arms crosswise on the back. His face was alight with enthusiasm.

"Sandy," he said, "did you ever hear of a what-you-may-call-'em thing?"

"Oh!" snorted Sandy. "I thought that was a bird!"

Stevens shook his head.

"Wrong!" he said. "It's a detectaphone!"

CHAPTER XXI.

Laying the Train.

UNTIL a late hour the two friends sat up, discussing Stevens's suddenly conceived plan. But it is one thing to conceive an idea, and quite another to carry it out. Sandy was frankly skeptical; but every objection he raised was borne down by Stevens, who, afire with enthusiasm, refused to even consider the possibility of failure.

"There isn't any such word in my dictionary now," he declared. "I've eliminated it for good and all."

"I can see your finish," Sandy cut in gloomily. "That darned contraption will take pretty nearly every cent we've got, and you'll get caught sure. The 'pen' for yours, and the county home for mine."

Nevertheless, he was obliged to admit that the scheme possessed alluring possibilities, and was quite ready to play the part Stevens assigned to him.

There was no time to be lost. But two days remained before the meeting of the directors on Saturday morning, and haste was imperative. Stevens had made up his mind that, in spite of everything, he would have his evidence ready to present to the members of the board before they took any official action in regard to the patent, and he patiently reasoned everything out with Sandy, so that there should be no possible chance for a fiasco.

He did not sleep much that night. There were so many details to be thought of, the neglect of one of which might easily ruin everything.

Bright and early Thursday morning he and Sandy started for the city. Their first visit was to the bank, where they withdrew their entire balances. It did not amount to a great deal, but it would have to serve.

Stevens led the way to a Broadway trolley-car. They alighted at Twenty-Sixth Street. In the St. James Building they spent an absorbed hour mastering the mechanism which Ruth Lester had referred to as a "what-you-may-call-'em thing."

When they emerged from the offices of the detectaphone company Stevens was carefully carrying what represented an outlay of the greater part of their combined capital. The package was not more than ten inches high and was not very heavy, but it was freighted with all of Stevens's hopes for regaining possession of his invention and clearing his name of the stigma with which Chatterson had besmirched it.

Stevens's next step was to engage an office on the seventh floor of the building, the first six floors of which were occupied by the S. F. and N. Y. There were two vacant. The agent was glad to rent one of them to the alert-looking young men—architects, he understood them to be. It happened, strangely enough, that the office they selected was directly over that of Charles Chatterson on the sixth floor.

Their next stop was a second-hand clothing store, where Sandy obtained a well-worn outfit, which he rolled in a newspaper and tucked under his arm.

"I know I'm going to make a mess of this, Jack," he said pessimistically. "What I don't know about electricity would fill a library. Now, if the darned shebang only ran by steam I could make a fist at it."

It was well after six o'clock that evening when two young men, dressed in overalls and jumpers and wearing cloth caps pulled well down over their foreheads, walked into the office of the general manager of the S. F. and N. Y. and unslung their tool-bags with a businesslike air.

Stevens had calculated that Chatterson had gone home and that his subordinates were out of the way, but that the office would be unlocked so that the charwomen could take possession. In this surmise he was not mistaken.

One of the cleaning staff of the building—a stout, red-faced woman known as Annie—recognized the two at once; but, supposing them to be still connected with the railroad, she offered no opposition when Stevens informed her that they had come to fix up some electrical connections, and that, if she would defer cleaning the office for a half hour, they would be greatly obliged.

He promised to make as little mess as possible. She went off cheerfully, agreeing to return after she had finished with the other offices.

The amateur electricians rolled up their sleeves and went to work with a will.

First, a big mahogany filing cabinet, which reached almost from floor to ceiling, was laboriously tugged and pushed out of the way, and then the velvet carpet was ripped up from the wall as far as the desk, laying bare the floor.

Stevens, possessing a complete mental picture of the interior of the office, had been certain that the telephone-wires must be under the carpet from

the desk instrument to the wall box, and had thought it better to make the connection from the detectaphone in the same fashion.

It involved a little more work; but there would be less chance of discovery than if the device were concealed in drawer or closet, since either of these might be opened. There was very little likelihood of any one getting down on the floor underneath the desk and looking up.

The disk was small and inconspicuous; against the dark wood of the desk it was almost invisible. The wire connecting with it could be run up the wall and through a hole in the window-casing to the office above. All traces of their presence would be covered by the filing cabinet when it was in place.

The work proceeded without a hitch. In less than half an hour the detectaphone had been installed under Mr. Chatterson's desk, well toward the top, at the back. Sandy, perched precariously aloft on the charwoman's step-ladder, was boring a hole in the window-casing.

Then the slender, flexible black cord was led along the floor, up the wall, and passed through the tiny hole in the window-casing. Stevens had gone to his office and, making a catch-loop in a piece of twine, had deftly snared the detectaphone wire and drawn it up.

Another half-hour sufficed to re-lay the carpet and move the cabinet and other furniture back into place, after which the two conspirators, jubilant over the success of their hazardous undertaking, tipped the good-natured Annie, who put the office to rights.

It would have taken keener eyes than those of Charles Chatterson to detect any trace of the "new electrical connections" which had been put in during his absence.

"A good job, well done," was Stevens's verdict as he and Sandy sat talking it over that evening.

"It sure is, but I was shaking in my boots all the time for fear something would happen and spill the beans for us. Suppose Chatty had forgotten something and come back after it? Suppose one of the boys had wanted to work late? Or suppose we hadn't been able to get that office directly overhead?"

"Why borrow trouble?" asked Stevens. "We're likely to have enough coming to us to-morrow, without looking for any additional."

But the worst part of the work was over. The rest would be mere child's play. At least, that was the way it looked.

CHAPTER XXII.

The Leaven Works.

AUGUSTUS FLINT, confidential secretary to the general manager of the S. F. and N. Y., received a good salary, which he undoubtedly earned—in one way or another.

Mr. Chatterson was not an easy master. All of Mr. Flint's predecessors had known either too little or too much; too little, in that they were not competent to handle the various matters which made up the daily routine; or too much, because they were sufficiently intelligent to understand the meaning of the term "accessory before the fact."

Mr. Flint, however, seemed to possess just the requisite amount of knowledge, which accounted for the length of time he had held his position and the remuneration he received.

He was a slender youth with pale eyes and an incipient mustache. He liked good clothes and good food, and he had two great ambitions — one to have as many suits of clothing as Marmaduke Robinson; the other to lunch every day at an expensive restaurant a few blocks from the office.

The one ambition was less easy to gratify than the other. To accomplish both would have required a far longer purse than Mr. Flint possessed; and had he copied successfully the bewildering changes of Mr. Robinson's rai-

ment, to eat daily at an expensive restaurant would have been quite out of the question. Therefore, Mr. Flint compromised, choosing the lesser of the two evils, and sacrificing the outer to the inner man.

It was his custom to stroll into the high-cost-of-living restaurant shortly after one o'clock, make his way to a small table in a sufficiently conspicuous place, and leisurely eat a substantial luncheon.

The table was reserved for him; and it is to be doubted whether anything in the world gave him a thrill of delight equal to that which he experienced when the waiter, murmuring a respectful greeting and, calling him by name, pulled out his chair for him and bent an obsequious ear for his order.

To a man of Flint's mental caliber earth holds no greater joy than the knowledge that he can do something which is quite out of the reach of his neighbor, and a daily luncheon at a smart restaurant was a luxury in which few of the employees of the S. F. and N. Y. could indulge.

Flint had boasted about "my table", "my waiter", and "my restaurant", until every one even remotely connected with the offices knew that between the hours of one and two he was invariably to be found on the inside of the restaurant's aristocratic portals. Which was very gratifying to the vanity of Mr. Augustus Flint.

On Friday, the day preceding the meeting of the directors, he had just finished luncheon and had lighted an expensive cigar, when some one pulled out the chair opposite him and sat down—at his table!

He looked up in dignified hauteur.

"This table is engaged, sir," he uttered chillingly. "I—"

He stopped. The unmannerly intruder was John Stevens, and John Stevens was some one he was particularly anxious not to meet. In confusion he started to push back his chair and rise.

At the same moment Sandy Everett appeared from behind him, and, without a word, sat down beside Stevens.

"I wouldn't run away if I were you, Flint," advised Stevens pacifically. "No one is going to hurt you—unless you absolutely insist."

"I had no intention of running away," said Flint with marble calm. "But, as I had finished my luncheon, and you seemed to want my table—"

"Not the table; merely a few words with you." Stevens drew his chair a little closer and lowered his voice to a confidential undertone.

"A little while ago I was pretty sore at you, Flint," he said. "But I've had time to think since then, and I realize that you are not to blame for what you were forced into doing. Of course, it wasn't right; but a man will go to some lengths to save his job.

"Now, you're not a bad fellow. Everett and I have come to the conclusion that it would be rather a shame not to give you a chance to pull your freight before the final crash comes. So we decided to have a little talk with you. If you want to get aboard with us, all right."

"I don't know what you're talking about," said Flint, nervously crumbling a crust of bread between his fingers. "And I'm in a hurry. I must get back to the office. I can't stop to listen to you now."

"You'd better wait until your hurry's over," remarked Sandy. "It'll be a lot wiser. There was a man once that died in a hurry."

Flint threw an apprehensive glance at him. There was an unpleasantly suggestive note in his voice. His wide, wistful brown eyes were hard.

"Well, what do you want?"

Stevens took the bull by the horns.

"We want you to make a deposition to the effect that I did not sign that assignment you claim to have witnessed!" he said boldly. "I know I didn't, and you know I didn't; but other people don't know it—yet. By this time to-morrow, however, they will! If you want to keep out of

trouble you can tell the truth now, voluntarily, without waiting to have it dragged out of you."

Flint turned a shade paler. He was afraid of Sandy; but he stood in mortal terror of John Stevens.

"I don't know what you're talking about," was all he could think of to say.

"Oh, yes you do, Flint! You aren't altogether an ass, are you? Now, look here. Everett and I have proof —*proof* mind you, that the gentleman who employs you has tried to steal my patent and that he has been using you as a catspaw to pull the chestnuts out of the fire for him.

"We intend to have him arrested to-morrow. He will be tried for conspiracy to defraud and a few other pleasant things like that. Unless you change cars mighty quick, you'll get left on the same siding with him."

Flint thought he saw a marker, and made a dash for it.

"Proof?" he said. "Why, you can't prove something that didn't happen!"

"That's my point exactly," rejoined Stevens calmly. "You can't prove that I signed a paper when I never even laid eyes on it; even if you swear to it in seven different languages! Our proof, however, is worth a little something. It consists"—he paused and leaned forward dramatically—"of a full confession from Marmaduke Robinson, implicating *you* in the fraud he and Chatterson tried to perpetrate!"

At that particular moment Augustus Flint was probably the most badly frightened young man in New York. He tried to rise, but Stevens's hand on his arm pressed him firmly down in his chair.

"Don't lose your nerve, Flint," Stevens said soothingly. "It will be all right for you if you do the square thing. But you've got to do that. Now, if you want to keep out of jail, you'd better tell the truth, the whole truth, and nothing but the truth. That signature was a forgery, wasn't it? You simply signed and sealed the assignment because your boss told you to, didn't you? And you were afraid if you refused you'd lose your job, weren't you? And you lied the other day in the office when you said that I signed it in your presence, didn't you?"

Flint's tongue nervously moistened his dry lips.

"I—I—" he faltered. "I—I—"

"Come on," said Sandy impatiently. "You what? Say it—and mind you tell the truth!"

"Oh, I will tell the truth, Mr. Everett!" gasped the wretched secretary. "Only give me time. I—I—"

Words failed him. He would have given everything he possessed on earth to be safe under the protection of Charles Chatterson, who could have told him exactly what to say and do.

Had Robinson really confessed, or was this simply a ruse? If he had, if he had divulged the carefully guarded truth, then Augustus Flint was in a very bad way.

If Flint told the truth there was no knowing what Chatterson would do to him. The general manager was a bad man to have for an enemy. And if Robinson had not confessed, the case would be even worse for the man who did!

Chatterson would know, Chatterson would have advised, commanded, directed. But Chatterson was far away —and these two strong, determined-looking young men were near—very near—terribly near!

They were big, and Flint was small. He felt small, smaller than he had ever felt in his life before, smaller than he would have believed it possible for him to feel—and at his own table!

He did not know what to do. And he was certain that whatever he finally did do would be wrong. It was a terrible moment. The perspiration started from every pore. He took out his handkerchief and mopped his streaming face with a shaking hand.

"Well?" demanded Stevens. "Are you going to answer my question?"

Flint looked wildly around for a way to escape. There was no one in the immediate vicinity; even the obsequious waiter had collected his tip and departed, and none of the tables near was occupied.

If he could only get to the door!

He tried to rise again, and was summarily pushed back into his chair.

"Sit down!" commanded Stevens. "If you move again I'll beat you to a pulp! Now, then, which is it to be—the truth, or the nearest police station?"

"The truth," whimpered Flint.

It must be that Marmaduke had confessed. Flint was not the sort to take any chances with his own precious skin. He opened his lips.

At that instant a voice fell on his ear. It seemed to him that he had never heard music sound so sweet as that voice.

"Flint," it said, "what are you about?"

Flint jumped and started to his feet, breaking Stevens's hold and overturning his own chair with a great clatter.

As he stepped back he managed to entangle himself with the cloth, pulling it bodily from the table and sending plates, glasses, and cutlery crashing to the floor.

Every eye in the restaurant was turned toward the table; a dozen waiters hurried to the spot. But Marmaduke Robinson magnificently disregarded the commotion.

"What are you about?" he repeated, fixing a baleful eye on the cowering secretary.

Flint gulped, gasped, and swallowed hard.

"They—they're t-trying to make me t-tell lies about Mr. Ch-ch-chatterson," he stuttered. "They want me to s-say I d-didn't s-see Mr. S-s-stevens s-s-sign that contract, and—"

"And did you?" Robinson's face was like a sheet.

"No, no! I didn't—I never did!" choked Flint piteously. "Oh, I never did, Mr. Robinson! They s-said you'd c-c-confessed and they were going to put us all in j-jail! They s-said—but I didn't—I never did!"

Robinson waved his yellow-gloved hand with a gesture of lordly command.

"Go back to the office and wait for me," he ordered.

The secretary went, nor stood upon the order of his going.

"I suppose you think you've arrived in the nick of time, Robinson," observed Stevens coolly. "But you're too late. The fat is in the fire now. I've got you just where I want you, and your finish is in sight.

"I've got all the evidence I need. My lawyer is ready to prosecute. You and your precious uncle are *through!*"

If Robinson were frightened he did not show it. He, like Flint, had faith in the great Chatterson. He merely shrugged his elegant shoulders and turned away.

"Theft, forgery, perjury—a nice trinity of felonies!" Stevens fired a parting shot. "And finger-prints on my personal property in my private desk at home are good evidence—excellent evidence. They will take some explaining. But that's not all; I've got everything I need to land you and Uncle Charlie in the pen!"

By this time Robinson had begun to feel seriously disturbed; but he endeavored to conceal it.

"I am going to see Mr. Chatterson at once," he announced solemnly. "He shall know of the attempt you have made to entangle Flint and of your threats. I shall tell him everything—and he will spare you no longer!"

"Yes; do tell him!" encouraged Sandy. "Tell him we've got the goods on him and are going to bust the whole show wide open!"

Much disturbed in mind, Mr. Robinson departed. It was possible that they had been making empty threats;

but what good would that do them? Suppose Flint had let something out? He had looked scared enough, and he would not have scrupled to lie. Clearly Mr. Chatterson must be put in possession of the facts at once! Robinson hastened his steps.

As his smartly tailored back disappeared through the revolving doors Sandy broke into a gleeful laugh.

"It worked!" he cried, bringing his open palm down on Stevens's shoulder with a resounding whack. "It worked to beat the cars, Jack! Marmy's horning in was the luckiest thing that could possibly have happened to us! I never thought we'd rope him in, too! It's all down grade from now on, old hoss!"

"Give her the sand!" advised Stevens soberly. "You're going too fast, my friend. There are several bridges to be crossed before we pull into the terminal. Still," he added, his face lighting up, "it looks as if it did work perfectly. Marmy will go straight to Chatterson and Flint is already there. They'll have it out, you bet. It behooves us to be right on the job!"

CHAPTER XXIII.

What Came Over the Wires.

IT was a small, square office scantily furnished with four cheap wooden chairs and a battered flat-top desk. The floor was bare, the white plastered walls streaked and dirty. The blinds at the windows were drawn, shutting out the light that came from the court. Several electric bulbs cast a hard, bright glare.

Four men sat around the table, in the center of which stood a polished oak box. Two of the men were stenographers; and about their heads were strapped receivers similar to those used in telephone exchanges. From these sinuous black wires led to the oak box.

The other men were John Stevens and Sandy Everett; and they were watching the nimble pencilings of the stenographers and listening intently to the words which came from the lips of one of them in a swift, steady monotone.

"I don't believe it could have been all bluff, Uncle Charlie. They were too confident. Maybe they've been talking to Burley."

"Nonsense, Duke! The very fact that they tried to get something out of Flint on the strength of your alleged 'confession' shows that they really have no proof. They were merely trying to frighten you and Flint into betraying yourselves. You are letting your imagination run away with you. Everything is all right."

"But Stevens spoke of finger-prints on something on his desk at home. I had to hurry so I may have touched something and it would be just my cursed luck to have him find it. If he did—"

"It wouldn't do him a particle of good, Duke. He is entirely discredited. There isn't a soul that would believe him, even if he could get anyone of importance to listen to his story. It was careless of you to handle things in the desk. I particularly cautioned you to disturb nothing; but I fail to see what harm could come of it.

"If Stevens brought any charges we could claim that he stole this thing —whatever it is—out of your desk here at the office at the same time he took the drawings and models. But he can't bring any charges. He's as helpless as if he were tied hand and foot. I flatter myself that I attended to everything.

"The copies you made of his drawings are the only ones Burley saw. No one could say which were the copies and which the originals, if the two were compared. You are really quite clever at copying things, Marmaduke. The signature on that assignment of rights would defy an expert. I think Stevens was a little

uncertain for a moment as to whether he had not actually signed that assignment by mistake. I didn't believe you could do it so well. I shall have to look out for my check-book, or you'll be copying *my* signature. Ha, ha, ha!"

"That's all very well, Uncle Charlie; but just the same, I'm not any too easy in my mind. Stevens and that Everett fellow had Flint pretty badly frightened. If I hadn't happened to drop into that restaurant just at the psychological moment there's no telling what he might have said. If he should ever admit that he didn't see Stevens sign that paper it would look pretty bad."

"For Flint, yes, Duke. But Flint won't admit anything. I'll have another talk with him. Besides, can't you see that nothing is going to come out to make his evidence necessary? We've gone beyond the matter of Stevens signing over his rights; we've got him in a position where he hasn't any rights to assign. The contract is a secondary matter compared to that. We're fortified at all points, and you're worrying yourself needlessly.

"There isn't one chance in a million that we shall be called upon to prove anything. The basic patents stand in your name, and the improved device will be in the name of the road. Stevens doesn't possess any rights in it at all."

"Yes; and it's mighty lucky we applied for the preliminary patent as soon as we did. I don't believe there was more than a week between our application and his. If he had gotten ahead of us, what should we have done?"

"Well, he didn't, did he? Why worry about something that didn't happen? I think you are making a great fuss about nothing, Marmaduke. I should have supposed that by this time you would have been able to trust me, my boy. Except for that finger-print of yours, there hasn't been a single hitch in my entire plan.

"Everything has worked out from the beginning just as I said it would, except that Stevens has proved more stubborn than I expected. He was a fool not to take that two thousand dollars and the position in Colorado. What did he gain by refusing? Nothing! And what did he lose? Everything!

"If he had accepted my offer he would have had money in his pocket and be still at work. As it is, simply because he refused to be sensible, he has no money to speak of, and he can't get work anywhere."

"I wish he had, Uncle Charlie. If he were in Australia or South Africa, or the other side of Jordan, for example, I would feel a good deal better. It makes me nervous having him in the city where he can get at people. He was so positive to-day, and so was Everett, that I made sure they'd been talking to Burley. I wouldn't put it by that fellow to let something out if he thought we couldn't trace it back to him. He isn't any too fond of either of us."

"Well, I'll have him up and question him if you like; but it's ridiculous to suppose he would say anything. He wouldn't dare. Why, I hold him in the hollow of my hand, and he knows it. Still, he and Flint are the only two who have any inside knowledge whatever, and I'm positive that Flint has divulged nothing. Send for Burley, and we'll see if there's anything in your idea."

There was a pause. The busy pencils ceased to skim over the pages of the note-books. In amazement the stenographers looked at Stevens. Indeed, these were astonishing revelations that were coming over the wire from the general manager's office.

"This will make interesting reading for Mercer and the other brass-collars at the meeting to-morrow," remarked Sandy. "So Marmy was the one who wrote your name for you."

One of the stenographers held up his hand for silence, and immediately

his droning voice slowly commenced again:

"Good afternoon, Burley."

"Good afternoon, Mr. Chatterson. Mr. Flint said you wanted to see me, sir."

"I do, Burley. I sent for you because it has come to me that you have been talking outside about Mr. Robinson's invention. You were under strict orders not to do so. I should like to have you give me your reasons for disobeying them."

"I didn't disobey, Mr. Chatterson. I haven't said a word about it."

"Don't lie to me, Burley! You know what to expect if you do not tell me the exact truth. Did you or did you not mention this invention—I refer to the most recent, the automatic safety device—or discuss it in any way with any person other than Mr. Robinson or myself?"

"No, sir. No, Mr. Chatterson, sir. I never did. I—"

"Careful! Think well! Remember that you cannot deceive me, and that it will do you harm and not good if you try!"

"Mr. Chatterson, on my honor, I never said a word! You told me not to and so did Mr. Robinson. I wouldn't disobey you — indeed I wouldn't! If any one says I talked about it, it's a lie! I—"

"There! That will do, Burley. There is no need for you to get excited. You may return to your work."

A short pause while Mr. Burley made his exit.

"Well, Duke, are you satisfied now? He hasn't talked. I was sure he hadn't. And he knew nothing to talk about. He never saw Stevens's drawings, and he believes the idea was yours."

"Maybe he does, Uncle Charlie. But he's smart enough to suspect that it may not be, because I'm no mechanic and he knows it. I was shaking in my shoes the whole time I was giving him directions, for fear he'd ask me some simple question that I couldn't answer. He did look at me queerly, once or twice; and I thought he guessed that I hadn't invented the thing."

"I doubt it. But if he did guess anything he will keep it to himself. You need have no fear of Burley—nor of Stevens, either. Still, it might not be a bad idea to get that young man out of the country. He doesn't seem to be intimidated by threats. Nothing we have said to him deters him.

"If he *should* get some one to listen to him he might manage to make it awkward for us.

"Dean is recovering, too, and Stevens knows him very well. I'll take this under advisement and find some way to get rid of Stevens directly. Perhaps an offer of a good post, sufficiently far off, would tempt him. If not—well, there are ways. It is not necessary that we take any chances, you know."

"I think we took some pretty big ones, Uncle Charlie, when we picked out Stevens. That chap who invented the automatic switch was easy. He gave up like a lamb and didn't make any trouble at all. But Stevens—"

"Marmaduke, you'll oblige me by not thinking up harrowing possibilities in this way. What chances did we take? With Stevens over two hundred miles away and totally unsuspecting, there was no real element of risk for us. Of course he knows that we hold the whip-hand so far as he is concerned. Everett knows it, too; but they can't prove it. No one saw you extract those papers from his desk, or copy his signature on the assignment.

"No one — careful there, Duke! What are you doing?"

"It's only my cigarette-case, Uncle Charlie. Here; let me get it. I'm younger than you. Just move your chair a little out of the way, will you? It's gone back there."

A pause.

"Hello! What's this, Uncle?

What have you got here? I never saw it before!"

"What do you mean? Where? Let me look!"

"Funny! What is it? It looks like —why—"

Suddenly, as if with one accord, the stenographers tore the receivers from their ears, dropped them on the desk and sprang to their feet.

"They've found it, Mr. Stevens—they've found it!" cried Tom Blake, the man who had been repeating the conversation. "The cigarette-case went under the desk and Robinson has seen the detectaphone!"

"Confound Marmy and his cigarette-case!" exclaimed Stevens. "If he hadn't dropped it they wouldn't have known a thing! Never mind; we've got all the evidence we need and more. The thing for us to do is—vamose!"

He was rapidly gathering up the things scattered over the table.

They locked the door of the office and trooped out to the elevators.

"You boys stand in front of us," directed Stevens, "and we'll run less chance of being seen and recognized if there's any one in the corridor. By this time they'll be looking for the other end of the wire."

The descending car stopped and they got in. As they passed the sixth floor they had a glimpse of Flint's pale and agitated face through the grated grill-work of the door. One of the stenographers uttered an exclamation.

"What's the matter, Blake?" asked Stevens, as they went through the big lobby to the street.

"No matter, I hope. But Flint was looking directly at me, and I don't see how he could help seeing me."

"Does he know you?"

"Knows who I am."

"Well, if that's all, we won't lie awake over it," put in Sandy. "He wouldn't connect you with us in a million years, and we were back in the car out of sight."

As it happened, however, he was wrong.

CHAPTER XXIV.

Success in Sight.

IN the sitting-room on the second floor of Miss Melinda Summers's cottage in Riverdale, the typewriter tapped out a steady staccato, punctuated by the click of the ratchet, as Blake reeled off one finished sheet after another.

It was dinner hour by the time he had finished transcribing his notes. Not only had he taken down the conversation between Robison and Chatterson, but also what was said previously by Chatterson and the secretary.

With a long-drawn sigh of relief he rose to give place to Simpkins, the second stenographer, who had backed Sandy off into a corner and was evidently protesting against something or other.

"You ask him anyhow, Everett," he said.

Sandy came forward.

"One copy will do, just for the present, won't it, Jack?" he asked. "Simpkins says he has a machine at home and can transcribe his notes there, after dinner, and compare them with Blake's carbon. Remember, the boys had no luncheon, and it's nearly seven, now."

Stevens had had no luncheon, either; but he realized that the stenographers were not as vitally interested as he was; and it did seem a little unkind to insist that either should go hungry longer when there was no pressing necessity. Still he hesitated about letting them go until the work was completed and both transcriptions and carbon copies were safe in his hands.

It was Simpkins who swung the balance.

"I'm half starved, and I'm going to trot home to dinner," he announced. "Right after I eat I'll get busy with

my notes and bring the manuscript around in the morning. But I wouldn't transcribe all that stuff now as a special favor to my best girl."

"Well," conceded Stevens reluctantly, "I don't want to starve you to death. You boys have done a great day's work for me, and I won't forget it in a hurry. You can go, if you wish; but I think you'd better wait until it gets a little darker, so there won't be so much chance of your being spotted leaving here."

Blake looked out of the window.

"It's dusky under the trees, now," he said. "And there isn't a soul in sight. We'll skip out and nobody'll be the wiser."

He put the folded carbon copy of his manuscript into his coat pocket.

"I'll take this and my note-book," he continued, "and go over the whole thing to-night while Jim is working. We can compare our stuff and have it absolutely alike. You've got the original; you won't need the carbon. It will save us a lot of time. Come on, Jim."

Blake and Simpkins, public stenographers in New York, roomed in Riverdale. Stevens had a slight acquaintance with them; and they had jumped at the chance to earn the extra money he promised them for their services at the detectaphone. If he were successful in carrying out the rest of his plan they were to receive a substantial bonus in addition to what he had already agreed to pay them.

They promised to be on hand promptly at nine o'clock the next morning in order to receive final instructions for the day, and departed, with many assurances of good will for Stevens.

The dinner bell rang just as they were going down the path. Although Miss Melinda had prepared a tempting meal, her "paying guests" were too excited to eat. They wanted to get up-stairs again in order to read over the manuscript left by Blake, and their food was almost untasted.

Miss Melinda shook her head as she looked at the scarcely touched dishes.

"I don't know what's come over those boys," she lamented to Mrs. Parr, who was helping to clear the table. "They used to have such splendid appetites, and now they don't eat anything. I hope they're not going to be ill."

"Eh?" said Mrs. Parr.

"Mr. Stevens is all tired out. I must tell him again to take a rest. He's had none this summer, and he looks thin," pursued Miss Melinda.

"I didn't do anything of the sort, Melinda Summers!" retorted Mrs. Parr indignantly. "I carved that chicken myself, and he had the very best part of the breast! And there wasn't any skin on his plate!"

"No—thin—*thin!* He looks thin!" screamed Miss Melinda.

"It was the plumpest of the flock! If you weren't perfectly *silly* about that young man, Melinda, every one around you would be lots more comfortable. At your age, too!" She flounced out into the kitchen. Miss Melinda sighed and followed her with the coffee-pot.

As soon as the feminine members of the household were safe in the kitchen—where, behind locked doors, Miss Melinda washed the dishes and Mrs. Parr dried them — Stevens descended to the telephone in the lower front hall and called up the Lester house.

Ruth herself answered the call. He knew her voice instantly, and was foolishly glad because she recognized his as soon as he spoke.

"I thought you had dropped out of existence, Mr. Stevens," she said. "It's so long since we've seen you. Where have you been keeping yourself?"

"I've been busy," he explained. "I wanted to get around to call; but I've been trying to take your advice, and it needed some thinking."

"My advice?"

"About going to that meeting."

"Oh!" She gave a little cry of

pleasure. "Are you really going to-morrow to stop them, then?"

"I'm going to try," he said grimly. "And I think I shall succeed. Won't you wish me luck?"

"I've been doing that every minute," she told him. "And I'm just simply wild to hear about it all."

"If I might be allowed to come and tell you — perhaps to-morrow evening?" he suggested.

"Wait a minute, please." He heard her voice faintly. "Yes, father; it's Mr. Stevens." Then a little chuckle, and: "Father says to tell you that he hasn't had a game of pinocle in a week."

"Tell him," said Stevens promptly, "that with your permission he shall have one to-morrow night."

"He says," she reported after an instant, "that he will be delighted, and that he is going to beat you."

"Eh?" exclaimed Stevens blankly. What had he to do with pinocle, or pinocle with him?

"He says he is going to beat you," repeated Ruth, "and that it's awfully kind of you to offer to come and play with him."

"Oh—ah—yes!" stammered Stevens. This was something for which he had not bargained. Why in thunder didn't the judge go and play with old Mr. Sawyer—who doubtless would be glad of his company?

"I don't know how I'm going to wait until to-morrow to hear what happens at the meeting," Ruth was saying. "Do come early and tell me all about it."

"Just that — just to tell you what happens at the meeting?" inquired Stevens.

"Why — well, not exactly." He could almost see the rose color creep over her face. "Er—and, by the way, my cousin, Miss Schuyler, is staying with me for a few days. Wouldn't your friend, Mr. Everett, come with you? He" — ingenuously — "could entertain us while father is beating you."

"I'll ask him," said Stevens, wondering in cold disgust whether a few more obstacles could not be found to prevent his having a word alone with Ruth. "If he has no other engagement—and I'm certain he hasn't—I'm sure he'll be delighted to come."

He was sure Sandy would be nothing of the sort; but, confound it, was there any reason why he should consider Sandy? Nobody considered *him*.

"Until to-morrow, then. And"—her young voice was suddenly compellingly sweet—"may you get everything you want at the meeting, Mr. Stevens."

"I won't," he said meaningly. "There are some things even the directors of the San Francisco and New York can't give me. But they can help me to a position where I can ask for what I want. Good night, Miss Lester."

"Good night."

Stevens went slowly up-stairs. Sandy was sitting at the center-table, a number of sheets of paper spread out before him.

"Well, Jack," said he, "if you have coaled up that love-affair so that she'll run for a while under her own steam suppose you come and go over this stuff."

Stevens, ignoring the reference to his telephone conversation, drew up a chair. Sandy continued:

"Say, son, do you know that if Chatterson had tried with all his might he couldn't possibly have given the show away better? That one speech alone is enough to settle him. He not only admitted—he declared that Marmy helped himself to the stuff in your desk at the office, went through your desk here at the house, and forged your signature.

"And he puts himself on record as having fixed Burley and Flint. In Flint's case I believe you could get him for subornation of perjury. It's all lovely!"

"It is that!" agreed Stevens. "I don't see any way that we can possibly

slip up now. But, Sandy, did you notice anything particularly significant in the way in which he referred to those two to-day?"

Sandy shook his head.

"Not me — unless you mean his having them both buffaloed. He's got Flint scared so that he doesn't answer yes or no without first running in for instructions. Burley doesn't dare say his soul's his own."

"That wasn't what I meant, although it's true enough. In all this muddle we've rather lost sight of the fact that some one knew enough about what was going on and thought enough of one of us to try to warn us—twice. I mean the 'disembodied voice.' We've never found out who that was, and never tried to very hard, either.

"But, according to Chatty's own statement, to-day there are just two people, outside of Marmaduke and himself, who know the first thing about the signal, and those two are Flint and Burley. One of them was the man who warned us — because Chatty didn't and Marmy didn't.

"We can safely eliminate Flint. He may be afraid of Chatty, but he's fond of him, too."

"No accounting for tastes," murmured Sandy.

"Quite so. But Burley doesn't share that particular taste. He loves Chatterson almost as much as I do—almost. But he's afraid of him. He hates and fears him at the same time. And he has always seemed to be rather fond of me. As I said, we can eliminate Flint, because, even if he dared, he wouldn't double-cross Chatterson on my account—not unless there was something in it for Augustus.

"Burley remains. He was in and out of my office a number of times while my drawings were around, and he may have seen them. It is quite within the possibilities that he did. And if so it seems probable that he might have tried to warn me—anonymously, so that he wouldn't get into trouble with Chatterson. The general manager has something on him, no doubt of that."

"Sounds plausible enough," said Sandy. "Wonder we didn't think of it before. And, now that you mention it, it occurs to me that the last time I heard that whisper Burley had been with Marmy in his office. Bert Collins met him going in and spoke to him. I'll bet he came straight from there and told me to send for you.

"Yes, sir!" Sandy was waxing enthusiastic. "That's it! That's what he did! Good old Burley! He was the 'mischief-afoot' party, as sure as you're an inch high! When you've put the jinx on Chatty you'll have to do something for him, Jack. Poor devil!"

"I sure will," acquiesced Stevens. "I'll see if I can't put him somewhere where he can be comfortable, anyhow. The men down in his department lead him a life, and no mistake. And there's that other fellow; he should be set right with the directors, too."

It had been news to both of them that Chatterson had cheated the inventor of the automatic switch-closing device, and until a late hour they sat up discussing possibilities for the future.

Stevens was in a roseate dream of wealth and fame and happiness. Reinstatement in the office and the recovery of his patent meant that he would be in a position to call on Ruth Lester as often as she would let him.

Even the prospect of playing interminable pinocle with Judge Lester failed to daunt him. He had been a little piqued at first that the judge had not kept the promise to get him a lawyer; but he was glad now since he was about to succeed through his own efforts, unaided—save unwittingly by Mr. Chatterson.

In less than twenty-four hours, if all went well, he would no longer be a pariah among his kind. Perhaps that weighed most of all with him. Although he had never spoken of it, even to Sandy, and had hardly al-

lowed himself to think of it, the bitterest drop in all the bitter cup had been the knowledge that, among his own people, the railroad men who were like no other men in the world to him, he had been an object of contemptuous scorn, looked down upon, avoided, distrusted—a very Ishmael.

But he was going to win back now. Once more he would be greeted with the hand of glad fellowship, instead of with averted face and coldly formal words. None but he who has been an outcast knows how terrible is the outcast's lot.

About half past one Sandy yawned and pushed back his chair.

"I move this meeting be adjourned," he said sleepily. "I'm dog-tired. Guess I'll turn in."

"By the way, have you anything on for to-morrow night?" asked Stevens in a casual tone.

"Not me," said the unsuspecting Sandy.

"Well, Miss Lester asked me to bring you over to meet her cousin, Miss Schuyler. Said she was a charming girl and thought you'd like her."

"What, me?" ejaculated Sandy in amazement. "Me go to call on a girl?"

"Why, yes, certainly. She particularly specified you. Said I must be sure and bring you to meet her cousin."

"She's never seen me, has she? Miss Cousin would sure be tickled to death to meet an animated telegraph-pole with a face that would frighten a self-respecting baboon into a spasm! Of course you said I couldn't go."

"On the contrary, I told her you'd be delighted to accept the invitation."

Sandy rose.

"Well, you lied!" he declared calmly and stalked out of the room.

CHAPTER XXV.

A Night in August.

THE second-floor sitting-room ran the entire width of the front of the house, which faced north. On the west side at the back was the bedroom which Stevens occupied. Across the hall was Sandy's room. The wide staircase from the lower floor ended in an L-shaped hall, into which all the rooms opened. Miss Melinda and Mrs. Parr had their sleeping quarters on the third floor.

After Sandy's departure Stevens prepared for bed. The weather was unusually warm, even for August, and the air was saturated with moisture.

It was impossible to keep cool or even comfortable. Stevens did not turn on the electric lights in the bedroom, as their glare seemed to accentuate the heat; but even in the darkness it was fairly torrid.

"Not for mine!" thought Stevens after an unsuccessful attempt to make himself comfortable. He got up again and opened the door of the bath-room, leaving it wide to encourage a draft.

Then he turned on the cold-water tap in the tub half-way, so that the sound of running water should not disturb Sandy, if perchance he had been so fortunate as to get to sleep. After waiting until the tub was nearly full he jumped in.

He heard the big clock in the lower hall, just outside the dining-room door, strike two as he went back into his room, considerably refreshed by his plunge.

Contact with the cold water had made him wide awake. He was not the least sleepy now. Instead of going to bed he lighted a cigarette and ensconced himself in a chair by the window.

The night was very still. Hardly a breath of wind stirred the branches of the trees in the garden below.

"Whew!" Stevens said aloud. "It sure is some hot!"

He moved his chair as close to the window as it would go and, his cigarette finished, leaned his elbow on the sill and balanced his chin on his hands.

It was Saturday. In a few short hours the directors of the San Fran-

cisco and New York Railroad would meet. He smiled exultantly as he thought of the bomb he was going to cast into their peaceful camp. He, the discredited, disgraced employee, would give them the sensation of their lives!

They had refused to listen to him when he had asked for justice. He would not ask for justice now—he would demand it, and he would compel them to give it to him!

The weapon was in his hands. He meant to spare neither cunning nor strength in its use.

In the branches of the gnarled apple tree at the foot of the garden a bird twittered sleepily, then chirped loudly and moved about with agitated fluttering. Stevens glanced idly toward the spot.

Suddenly he sat up very straight and leaned forward, narrowing his eyes in an effort to see more clearly. Was it his imagination—or had he really seen something moving there among the shadows?

For a moment he could not distinguish anything. Then something moved again—a figure that passed slowly and silently from behind the trunk of the apple tree and on to the rustic summer-house that was the pride of Miss Melinda's heart.

And from behind a clump of tall rose bushes in the center of the garden another dark figure emerged and joined the first.

The two remained motionless for perhaps two minutes, their heads bent toward each other. Then they moved toward the house, rounded the corner, and vanished from the range of Stevens's vision.

"Now what in Sam Hill?" he murmured.

He went into the front room. Putting his head out of the window which opened on the side yard, he looked this way and that. There was no one in sight.

He stepped to the front window and raised the screen. Presently he descried two men walking down the street in the direction of the station. He had no means of knowing that they were the same two he had seen in the yard, but there was no reason for supposing otherwise.

He decided that they must either have climbed the fence at the back and taken a short cut through the garden, or else they had come in from the front to lie on the grass under the trees.

Tramps, probably; for respectable citizens of Riverdale did not wander about private property at half past two in the morning. Some poor fellows who had no place to go and were trying to find a cool place to sleep.

Satisfied with this hypothesis, and beginning to feel a little sleepy, he went back into his room and lay down on the bed; but scarcely had his head touched the pillow when he raised himself up on one elbow, with every sense alert.

For he had heard the front stairs creak faintly but unmistakably. Stevens knew that creak. The second step from the bottom was loose. Miss Melinda was always going to have it fixed—only she never did.

He listened intently. Again the sound, magnified in the intense stillness, came to his straining ears. In an instant he was on his feet and was groping in the top drawer of the dresser for his revolver.

His fingers closed on it; he tiptoed to the door and listened with his ear to the panels.

Beyond doubt some one was cautiously ascending the stairs!

Just outside of his door was an electric button which controlled the light in the lower hall. Noiselessly he turned the knob and slipped one hand along the woodwork until he felt the two little protuberances in their metal plate. He pressed the upper one, holding his revolver in readiness.

There was a sharp click, and the light in the hall below flared up brightly, silhouetting in bold relief the figures of two men half-way up the stairs!

Simultaneously the door across the hall was jerked open, and Sandy appeared, his straw-colored hair on end, his long limbs incased in gaudily striped pajamas. He had a revolver in his left hand and a feather pillow in his right.

Sandy was much excited, but he was not more than half awake. He raised the pillow, evidently under the impression that it was the revolver, tried to find the trigger, discovered his mistake, and, with a loud shout, hurled it straight down the stairs.

His arm was strong, the pillow was large and reasonably heavy. It struck the foremost man full in the face. He fell over backward, colliding violently with his companion, who was a couple of steps below, and sweeping him completely off his feet.

The two rolled to the bottom of the stairs and brought up with a resounding crash against the front door.

"You idiot!" roared Stevens. "What did you do that for?"

He cleared the landing at a bound and started down the stairs.

"Hands up!" he shouted as the men, disentangling themselves, scrambled to their feet. One of them promptly obeyed. The other, a burly fellow with a heavy growth of beard, snatched out a revolver and sent a bullet humming past Stevens's ear.

The young man returned the fire. A yelp of pain told him that his aim had been good, but he hesitated about running down-stairs directly into the muzzle of the man's weapon.

On the landing Sandy was yelling excitedly:

"Plug him, Jack! Plug him! He got me in the arm and I can't shoot! Plug him, can't you?"

The intruders ducked behind the banisters and scuttled through the hall.

Stevens descended the stairs in jumps and pursued them through the dining-room and into the kitchen, flinging wide the door which they had slammed shut, just in time to see them dive through an open window which opened on the side porch. They must have entered that way, cutting out a pane of glass to reach the inside lock.

In a trice he was after them. His revolver spoke again; but it was too dark to aim properly, and the shot went wild.

Running like frightened deer, the men crossed the lawn and plunged into the shrubbery on the other side of the fence. It was useless to follow them; they had too good a start; and when clad in a suit of pajamas only, one is at a disadvantage in a cross-country run. Stevens was obliged to content himself with firing a shot or two into the dense mass of shrubs and bushes that lined the fence.

Pandemonium broke loose. An upper window flew open and Mrs. Parr's night-capped head appeared. From her lips issued a series of blood-curdling shrieks.

"Fire! Murder! Help! Police!" she screamed in shrill falsetto.

"It's all right, Mrs. Parr. They've gone!" Stevens called reassuringly; but, instead of stopping, her cries increased in volume and variety.

"She'll wake every one in town!" muttered Stevens. "It's all right—they've gone!" he shouted with all the strength of his lungs. She never even looked down at him, but leaned from the window, waving her arms wildly.

"Help! Help! Murder! Fire! Police!" she vociferated.

And now there came a sudden and alarming clamor from within—little feminine squeaks and squeals, yells of lusty masculine protest, and the *thud-thud* of blows.

Turning from the edge of the porch, Stevens climbed through the window again and darted along the hall. A strange sight met his eyes.

At the head of the stairs Miss Melinda Summers, in a long, yellow dressing-gown and red knitted slippers, with wisps of her scanty hair flying about her pinched little face, was wielding a pair of shoes as if they had

been a club, and was zealously belaboring the head and shoulders of—Sandy!

"Jack! Jack! Stop her!" he bellowed as Stevens appeared. "Make her listen to reason! I can't do anything with her. She's running amuck."

But it was not until Stevens had hurried up and taken her improvised weapon from her by actual force that she could be induced to desist.

"He tried to rob us!" she panted. "He's a wicked thief, and he— *Oh! it's Mr. Everett!*"

"It's what's left of him!" growled the disgusted Sandy. "Here, Jack! Lend a hand, will you? That bullet went through my arm and it's bleeding to beat the band!"

Miss Melinda burst into tears and refused to be comforted, even after Sandy's arm had been bound up and he had assured her repeatedly that she was not in the least to blame for his wound.

Mrs. Parr was dragged bodily away from the window, but not before she had aroused the entire neighborhood. There was nothing the matter with her lungs, even if her hearing was defective.

Stevens insisted upon sending for a doctor to look at Sandy's arm; and in this he was supported by Miss Melinda, who believed that she had made the wound worse by mistaking Sandy for one of the burglars.

The hurt was painful but not serious. Sandy was assured that in a few days' time he would be all right again. Only he must keep quiet and not use his arm until he was given leave.

Meanwhile, Stevens had interviewed the police. It had been unnecessary to send for them; Mrs. Parr had conscientiously attended to that. Several reporters had arrived in their wake.

Stevens was able to give a good description of one of the men; and as for the other, the one who had fired the shot, he had recognized him as soon as his eyes fell upon him.

Notwithstanding the disguise of shabby clothes and a heavy growth of beard, he knew the form and features of Big Pete Camm!

It was long after daylight when the house finally quieted down again. There was no sleep for Stevens. Although the attempt at burglary by Camm and his companion had turned out more in the nature of a farce-comedy—except for poor Sandy's misfortune—there was something sinister back of it all.

Camm was a bully and a scamp; but he was not a professional thief. While he might and undoubtedly did consider himself aggrieved at Stevens because of the latter's treatment of him at the construction camp, it was quite outside all probability that he would have sought to revenge himself by a midnight marauding expedition.

Unquestionably he had been paid, and paid well, to make the attempt to rob the house. And he had come for one thing only—the stenographic notes of the conversation between Marmaduke Robinson and Charles Chatterson.

So the general manager knew by whom the detectaphone had been installed! Either Flint had seen Sandy or Stevens himself in the car, or the agent had been able to give a sufficiently accurate description of the new tenants of the seventh floor office to enable them to be recognized.

Would the knowledge do Chatterson any good. Or, more pertinently, would it do Stevens any harm? The young man sincerely hoped it would not; but he was much concerned, for all that.

CHAPTER XXVI.

Mrs. Scully's Boarders Disappear.

FOR the twentieth time Stevens stepped to the edge of the porch and looked down the long, tree-shaded street. There was no one in sight except a stout, elderly woman with a market basket on her arm and a col-

ored housemaid pushing a perambulator.

He went back to where Sandy sat in an easy chair, his wounded arm in a sling.

"Coming?" inquired Sandy.

Stevens shook his head.

"Not yet. It's time, too. Blake promised faithfully to be here at nine sharp. It's five minutes after now. I'll wait another five minutes. If they don't show up then I'll telephone."

He fidgeted about, sitting down for a moment, to rise and pace restlessly to and fro the next, all the while watching the empty street with anxious eyes.

The five minutes passed. Still there was no sign of Blake or Simpkins.

"I'm going to telephone, Sandy."

Stevens went to the instrument in the hall. Almost immediately he put his head out of the door again.

"Where does Blake board, Sandy?" he asked. "At Mrs. Scully's, on River Street, isn't it?"

"No. 137. Hasn't she a telephone?"

"It doesn't seem to be listed. I'll ask the operator."

He disappeared into the hall again. Inquiry at the central office elicited the information that Mrs. Scully, of River Street, was not a subscriber.

"I wouldn't fuss if I were you, Jack," advised Sandy. "It's only a quarter past nine, and there's half an hour before train time. They'll get here all right. And suppose they don't? You've got the transcript of Blake's notes."

"A lot of good they'll be without Blake!" snapped Stevens.

"Sit down and keep cool. It's too warm to prowl around that way, and you'll need all your energy for the meeting."

But, sensible as this suggestion undoubtedly was, Stevens could not follow it. He was more than a little disturbed, and as the minutes slipped by his uneasiness rapidly increased. When the hands of his watch told him it was 9.25 he could stand it no longer.

"I'm going around to River Street to stir up those fellows, Sandy," he said. "I'm afraid something has happened, and I'm going to look them up. If they come around the other way and get here after I've left, chase them right down to the station to get the 9.45. I'll have to take that, anyhow. If they come too late, send them down for the 10.19. Have them come right up to the directors' room. They'll know where it is—on the second floor, next to President Mercer's office."

"Correct," nodded Sandy. "Don't worry, Jack; they'll turn up all right. Probably they worked pretty late last night getting that stuff in shape, and overslept this morning. I wish," he added wistfully, "I could go with you."

"Well, you can't," said Stevens decisively. "The doctor left orders that you were to keep perfectly quiet today and not to go out in the hot sun. I'll get home as early as possible and tell you the news. So-long."

"So-long," echoed Sandy. "And the best of luck to you, old man."

River Street was two long blocks from the boulevard, and in a much less pleasant quarter of the town. The houses were small and ugly, and their gardens—when they had any—neglected. Mrs. Scully lived in one of the smallest and least attractive places on the street.

She came to the door herself in answer to Stevens's pull at the bell, her sleeves rolled up to her fat elbows and a rim of soap-suds encircling each arm like a bracelet.

Her dress gaped at the throat and the front of her torn gingham apron was stained and streaked with dirt. In one hand she held a dripping garment of nondescript appearance, which she hastily thrust behind her at the sight of the caller.

"Is Mr. Blake in?" asked Stevens, removing his hat. "I should like to speak to him for a moment."

Mrs. Scully bobbed a curtsy.

"It's sorry I am to have to come to the door lookin' like this," she said. "I don't often have to do it, but my girl is sick." Mrs. Scully had never had a girl in her life, but she knew the caller couldn't know that. "And I'm after doin' a bit of washin'. It's not often I have to do it, but the clothes have been waitin' in the tub the week, and the boarders is dreadful big eaters, and I've been cookin' for 'em; so I've had no time for nothin' else. It's not often I have to do it, but the girl has been sick this long time, and all the work just falls on me, whether or no. It's not often—"

"Excuse me," interrupted Stevens, cutting short the torrent of her speech, which showed no signs of diminishing, "but I've got to catch a train, and I must see Mr. Blake before I go. Is he in?"

"Mr. Blake is it you want? He is not in, then. As I was saying, I don't often—"

"Do you know where I could find him?"

"I do not then. He didn't say where he was goin', and 'twas not for me to ask."

Mr. Simpkins, then?"

"He went too. And sorry I was to see them go. As nice and quiet a pair of young gentlemen as ever come under my roof, and no trouble at all for me to wait on, though 'tis not often I have to do it, excepting when the girl has been took sick, and has been—"

"When did they go?"

"Last night. And not a word did I know about it till I came in from market, though 'tis not often I have to do it, except when—"

"Mrs. Scully, please!" begged Stevens in desperation.

The moment the woman opened her mouth, words poured from it as water from a tap, only, he reflected, you could shut off a tap, and there seemed no shutting off Mrs. Scully's flow of eloquence.

"I've only a few minutes for my train," he explained, "and it's very important for me to see Mr. Blake or Mr. Simpkins. Can't you tell me where they went and when and why?"

"Ain't I tellin' you?" she demanded. "I'm doin' the best I can and you keep interruptin' me. As I started to say, when I got in from my marketin' last night, 'long about nine o'clock, I think it was, Mr. Blake he comes to me and he says that he and Mr. Simpkins is goin' to leave me, that they've got a sudden call, and they'll be goin' on the train—what was it—some kind of a bird train?"

"The owl," prompted Stevens.

"Yes, that's it—the owl. Out of New York, he says. And I says I'm sorry to hear it, but won't they be comin' back again never? And he says no, they won't, and he's sorry, too, because he liked my house. And he pays a weeks board in advance for both of them instead of notice. As nice a young man as ever come under my roof exceptin' Mr. Simpkins, and no trouble at all for me to wait on. Both of them was just as nice! And—"

"Were they alone all evening?" asked Stevens. "Was any one here to see them that you know of?"

"Oh, yes. There was a young chap come in askin' for them, askin' for Mr. Blake, that is, just as I was goin' out to do my marketin'. I went to the door myself, just as I come to the door for you, though 'tis not often I have to do it, but I went last night on account of the girl being sick, and this young man he asks for Mr. Blake.

"He was still here when I come back, helpin' them to pack up their things, and they all went away in a cab together. They took their trunks and their bags, and they cleaned up their room very nice—very nice indeed, never left so much as a scrap of paper for me to pick up after them. Not that I have to do it often, but the girl—"

"Can you tell me what sort of a looking man this visitor was?" There

was very little doubt in Stevens's mind as to the identity of the "nice young man."

"I dunno as I can. He was young and very natty dressed, I noticed, and he had light hair. I couldn't see him very well in the hall, the light not being lit yet, but he spoke pleasant enough, only he seemed to be in a hurry. Some folks is always in a hurry. He had on yellow gloves, too. A nice young man, I says to myself right away. I was hopin' maybe he'd come for a room. I've got a nice comfortable room in the second story front, with two windows. You don't happen to know of anybody that might like it, do you?"

"I'm sorry, Mrs. Scully, but I don't know of any one just now." Stevens was backing toward the steps. "If I hear of any one, I'll let you know. I'm sorry to have detained you so long. Thank you very much."

"Oh, you're quite welcome, I'm sure, and you didn't detain me long at all. I was only after doin' a bit of washin', though 'tis not often I have to do it, but what with the girl bein' laid up sick the week—"

"Good-by," said Stevens with decision, and hurriedly fled.

Mrs. Scully was still talking volubly when Stevens turned the corner and hastened toward the station. It was exactly eighteen minutes to nine, and it behooved him to move pretty briskly if he would catch his train.

The first person he saw on the station platform was Sandy, who, bareheaded, was standing at the crossing nearest River Street.

"Where are they, Jack? They didn't turn up at the house. Didn't you find them? Where are they?"

"Skipped," he laconically answered.

"What? You don't mean—?"

"They've given me the double-cross, Sandy. Robinson was there last night—and bought them off. They cleared out on the last train, bag and baggage."

"The devil!" exclaimed Sandy.

"No, Chatterson, which, after all, is about the same thing, I guess."

"But how under the sun did he know?"

Stevens shrugged.

"It's all my own fault. I should not to have let either of those fellows out of my sight until I had the whole thing sewed up. But I was so sure—too sure—that was the trouble. Flint recognized Blake when we went in the elevator yesterday, and must have seen that he was with us.

"So Chatterson fixed it with Marmaduke to go to Scully's last night, and he bribed Blake and Simpkins to sell me out. I wouldn't be afraid to bet everything I own that they turned over all their notes and manuscripts to him and told him that I had only one copy. That's why Camm came to the house—to try to steal that one copy. If he'd gotten it, they'd have had every shred of proof, except your testimony, which isn't first hand, and mine, which isn't worth a hoot in a barrel."

"The turncoats!" exploded Sandy. "They took your money, and then went over to those scoundrels. If I had 'em here—"

Just what he would have done in that event never transpired, his words being drowned in the noise of the train as it pulled into the station.

Stevens turned to go.

"Well, I'm off," he said. "It was good of you to come down, old man. Take care of yourself."

"But what will you do now?" inquired Sandy dismally, striding along by Stevens's side as he made for the steps of the nearest coach. "That stuff you've got isn't any good as evidence without Blake to swear to its authenticity, is it?"

"Maybe not as actual evidence. But it will serve as a lever to compel the directors to listen to me and make some sort of an investigation. With that and the finger-print and such other scraps of proof as I can dig up, I can convince them that my story isn't cut from whole cloth. There's the

office over Chatterson's and the detectaphone—I can prove that we used it, you know. Annie, the charwoman, can testify that you and I were there on Thursday night, setting it up, and the agent can say that he rented us the office. Of course, it's all fragmentary, but, maybe, I can do something with it. At least, I hope I can. If I fail—"

"Your not going to fail!" Sandy declared with a confidence he was far from feeling. "If you see any symptoms of it coming on, just think of poor little Alexander on his way to the almshouse, and take a brace. Got that transcription all right?"

"In here." Stevens tapped the breast pocket of his coat. "Now you can cut along home and rest. You ought not to have come down in this heat."

He waved his hand and swung himself aboard the cars as they started to pull out of the station.

CHAPTER XXVII.

Chatterson Makes Another Move.

STEVENS leaned against the rail of the ferryboat and stared moodily down into the gray-green water that splashed high against the bow and broke into little showers of spray on the forward deck. He held his straw hat in his hand, and the fresh breeze ruffled and rumpled the crisp hair on his temples.

On the other side of the river, the wonderful, irregular skyline of New York, that is like no other skyline in the world, stood out in all its curious, compelling beauty against the blue distance.

Ordinarily, Stevens's gaze would have been fixed on the architectural Alps. He loved to see New York's great buildings cut in clear, distinct silhouette, just as he loved them when, veiled in mist, they loomed fantastically, like the towers and minarets of some fantom city of dreams.

But to-day, as the boat forged steadily across the North River, he did not even lift his eyes from the little foam-capped waves that surged along her sides. They seemed to symbolize his hopes, buoyantly, confidently rising, only to be dashed back again by an insurmountable obstacle.

Victory had been within his grasp and had been snatched from him. He had had everything he needed to insure his success—and he had lost it just when failure seemed impossible.

It was all his own fault, too, for allowing Blake and Simpkins to go home the night before. He blamed himself far more than he blamed them.

To men in their position, a few hundred dollars in cash would seem a very great deal of money. Probably they were not troubled by any conscientious scruples, certainly none sufficiently rigid to prevent a sum of ready money from outweighing any loyalty they might have felt toward him as their employer.

It was nothing to them whether he recovered his patent or not. All they were interested in was the money he had promised them for their help; and when there was more money to be gained for the withholding of it, they had promptly transferred their allegiance to the other side.

He felt that he should have known that and guarded against its fruition. But an honest man is always at a disadvantage in dealing with rogues, inasmuch as he invests them with his own honesty and expects from them a course of conduct similar to that which he has established.

It would have been impossible for John Stevens to accept a bribe to betray his employer's interests. That the stenographers might be made of different metal had never occurred to him.

The vague feeling of uneasiness he had felt the night before had been more in the nature of a premonition than of an actual fear that the men would trick him. He had been over-

confident, over-trustful, that was all. When so much depended upon the testimony of the stenographers, he should have taken every possble precaution to insure against its loss.

He could imagine how Charles Chatterson had looked when Robinson reported the success of his mission.

At every turn the general manager had beaten him. With the exception of those type-written sheets in the breast pocket of his coat and the photograph of Robinson's finger-print taken from the paper-weight in the desk, he was precisely where he had started.

And of what use would they be against the evidence his enemies could produce against him? Chatterson's point about the paper-weight was well taken. What would be easier than to declare that John Stevens had removed it from Robinson's desk at the same time that he had stolen the drawings of the safety device?"

Surely, any one could write out an imaginary conversation and swear that it had taken place. True, the detectaphone company would corroborate his statement about having purchased the machine, and there was the hole in the window casing. The agent's word and that of Annie, the charwoman, would confirm it—but the prospect was disheartening in the extreme.

"I don't care!" Stevens said aloud and determinedly. "I'll make the attempt, anyway!"

"I wouldn't, if I was you," said a voice at his elbow.

He looked up. A brawny deck-hand was standing close to him, watching him as a cat watches a mouse.

"There's lots easier ways than the water route," went on the deck-hand. "Take it from me, there is. Brace up and swallow your medicine like a man. Playin' the coward ain't goin' to get you nowhere. There ain't nothin' so bad it mightn't be worse; an' if you hang on an' growl, you'll come out atop yet."

Stevens stared at him in astonishment; then, as the man's meaning dawned upon him, he laughed outright in spite of his depression.

"Don't worry," he said. "I wasn't thinking about going overboard."

The deck-hand looked relieved.

"Beg pardon, sir," he said awkwardly; "but you looked—well, you didn't look none too happy, and you was watchin' the water so. I thought I'd better watch you. Beg pardon, sir, I'm sure."

"That's all right," said Stevens heartily. "And I'm much obliged for your advice. I'm going to take it. In other words," he smiled cheerily, "I'm going to hang on and growl."

The boat nosed her way into the slip. Stevens went quickly out through the ferry exit and across West Street. He walked along the river front for a couple of blocks and then turned east toward Broadway.

He crossed Greenwich Street and West Broadway, walking briskly, as he wanted to be on hand as soon as the directors assembled. He anticipated some difficulty in gaining admittance to the meeting, but he intended to get in, nevertheless.

At the corner of Church Street he paused to let a huge motor-truck pass, standing with one foot on the curb, the other in the gutter. Involuntarily he drew back as it thumped and pounded along close to the sidewalk. As he did so, he noticed on the other side of the street, about half a block ahead, a young girl.

She was dressed in white with a deep girdle of rose-color that matched the scarf on her Panama hat. She had black hair and she walked with an easy, swinging grace that reminded him vividly of Ruth Lester. Ruth! For just a few hours, he had hoped, he had dreamed. Had he lost her, too?

A taxi-cab, wheeling out of Church Street, in the wake of the motor-truck, drew up at the opposite curb and shut off his view of the girl. An elevated train roared over its tracks, blotting out the few rays of sunlight that fil-

tered through the steel structure and filling his ears with hideous clamor.

Just how it all happened he never knew; but, as he stepped forward to continue his way, a shadow flitted across the sidewalk behind him, a long, muscular arm flashed about his neck, and his feet were kicked violently from under him.

He struggled and tried to call out; but the suddenness of the attack had taken him unawares. Before he could free himself or break the grip on his throat, he had a confused impression of a figure leaping from the door of the taxi-cab and running towards him. Then some heavy object crashed on his head and sight and sense left him.

When he opened his eyes again they rested on the face of a girl, pale and frightened, but infinitely lovely. She was bending over him. For a moment, still half stunned from the blow, it seemed to him that she was a vision that had come to him, drawn across time and space by the intensity of his longing for her.

"Ruth!" he murmured. "Ruth!"

"Hush!" she said. "You mustn't talk."

"But I must! I was thinking of you, wanting you—and you came to me. Ruth—"

"Hush!" she said again. "And don't try to move now, dear."

In spite of her injunction he turned a little to look at her. With the movement, a sharp, agonizing pain shot through the back of his head. He raised his hand and touched the spot; it was bleeding profusely.

Dazedly he looked at them. Blood! How came there to be blood on his head? Then he remembered. Some one had knocked him down and struck him. Slowly his brain cleared and he became conscious of what was going on around him.

He was lying on the sidewalk, his head pillowed on Ruth Lester's lap. The street was packed from curb to curb with a swaying, jostling crowd, drawn as if by magic to the spot.

A ring of curious faces encircled him, their owners pressing closer and closer, held in check only by the combined efforts of two policemen. A third officer was questioning the bystanders, and still another was talking to Ruth.

"He's all right, Miss; don't you worry." The policeman looked down into Stevens's clouded eyes and smiled.

"Feel better, don't you? That's right. Lemme help you up. That was a nasty knock you got, but you can sit on the steps here until you're well enough to talk."

"I'm well enough now."

With the policeman's help, Stevens managed to get to his feet. He was sick and dizzy, but able to think and talk coherently. No, he said, he did not need a doctor; he would be all right in just a few minutes, and he could not stop for medical treatment. No necessity for it; the cut on his head was nothing but a scratch.

"Name and address, please?" requested the policeman.

Stevens gave them and answered, as well as he could, a number of other questions. He could not identify his assailants, for he had seen nothing except a quickly moving shadow across the sidewalk.

It was presently discovered that a man named Hempel, who worked in a picture store at the other side of the street, and who had happened to be taking an engraving out of the window for a customer, had seen two men, one of whom ran from behind a building, while the other sprang out from the waiting taxi-cab. The former had throttled Stevens; and then, after his companion had struck the young man on the head with what Hempel took to be a blackjack, both had stooped over the prostrate body for an instant, then jumped into the taxi-cab and been driven off.

Hempel had been so excited by the assault and it had all happened so quickly, that he could give no adequate description of either of the men. One, he thought, was big and heavily built

and wore a beard. The other was smooth shaven and rather better dressed than his accomplice.

There was nothing distinctive about the cab, which had driven north on Church Street at a reckless rate of speed, and had turned toward Broadway a couple of blocks up. No one had obtained its number.

"Did they get any valuables?" asked the policeman finally.

Stevens made a rapid inventory. His watch, which he carried in the fob pocket of his trousers, was safe; but his wallet, containing a few dollars in bills, some personal cards and a few private papers, was missing, as was his scarf pin.

He felt in the breast pocket of his coat, and a great light burst on him. The transcription of Blake's notes was gone!

The motive for the assault and robbery was plain enough now, and he cursed his stupidity for not having understood at once. Beyond all shadow of doubt, Chatterson had surmised that he would carry the transcription with him and had taken this means to secure it.

With his brain in a raging tumult of mingled rage and dismay, he went through the rest of the formalities. What was the use of it all? he asked himself. Suppose the men were caught and punished? That would not bring about the recovery of his papers. By this time they were destroyed, and with them, his last hope.

But, strangely enough, instead of being utterly discouraged and cast down by the realization, he was filled with savage fury.

The policeman had dispersed most of the crowd and, at Stevens's request, called a taxi-cab. Ruth Lester, her white gown stained with crimson splashes, took her place inside.

"Do you think you ought to go on to the meeting?" she asked anxiously. "You've had a dreadful shock. I think that cut on your head must be bad, although you pretend it isn't."

"I'm perfectly right, thanks," he told her, "and I'd go to the meeting if I were just able to crawl. I'm going to say what I have to say to Mercer and Grosscup and the rest if it takes the last breath I ever draw!"

She saw that he was determined; that remonstrance would do no good. Reaching forward, she opened the door of the taxi-cab.

"Then you get inside here and ride over with me," she commanded. "You're not going to walk a step—not one step!"

"But—"

"Get in!" she repeated, and Stevens obeyed.

It was only a few blocks to the San Francisco and New York offices, and the motor quickly covered the short distance. During the drive, Ruth did not speak and Stevens dared not say a word. He knew that if he opened his lips he would tell her that he loved her, and he had no right to do that; no right, he sternly told himself.

And so he sat still and hugged the memory of that moment when her lovely pale face had bent over him, when he had heard her voice calling him "dear." That she was unconscious of having said it, he was sure; but if he never saw her again, if he must put her out of his life, he would have that to remember—she had called him "dear."

Already she had explained to him how it was that she happened to be in that particular part of the city so early in the day. Her father, it appeared, had left some important papers at home, and had telephoned to ask her to bring them in to him. She had taken a train half an hour before John Stevens, delivered the papers to the judge, and was on her way home when Stevens had seen her.

It was not until the taxi drew up at the entrance to the big building on Broadway that she broke silence.

"Mr. Stevens," she said, "father once told me that life is like a Ferris wheel. Sometimes troubles come

thick and fast, and the wheel goes down and down, until it seems that it has come to the bottom of all things.

"But when it does get to the bottom, it has to turn and go up again; and then the very things that weighed so heavily on the down grade help to push it up faster. Don't believe for a moment that your wheel is going to stop at the bottom."

He turned, looking at her with speculative eyes.

"Don't you, Miss Lester?" he asked.

"No. I *know* it isn't. She stretched out her hand and touched his fingers lightly. "Go in, and win!" she said. "You're going to win; you've got to. And remember, if you're well enough, we expect you to call to-night, so that we can rejoice with you in the victory."

CHAPTER XXVIII.

Bearding the Lions.

"I'M sorry, Mr. Stevens, but you can't go in," said the pleasant-faced young man who acted as secretary to President Mercer.

"Certainly he can't go in," echoed Augustus Flint, starting to his feet and gazing in alarm at the grimy, blood-stained figure.

Stevens did not appear to hear either of them. He strode across the room to the door at the further end, and was already turning the knob when Mercer's secretary sprang to his side.

"You can't go in, Stevens, and that's all there is to it. The directors—"

"Get out of the way!" said Stevens. "I don't want to hurt you, but—"

His fingers closed on the secretary's wrist in a grip that brought a squeal of pain from the young man, and jerked him aside.

The next instant the door leading to the directors' room had opened and closed. Stevens was on the inside.

He staggered a little, striving to fight back the dizzy faintness that assailed him. He could not seem to see clearly. There was a gray cloud before his eyes. He put up his hand and brushed it across them, setting his teeth and summoning all his will power.

The San Francisco and New York Railroad Company had ten directors. Of these eight were present.

Daniel Grosscup, chairman of the board, sat at the far end of the long, polished table. Next to him, on the right, was Peter Calvin, an important stockholder in three of the largest railroads in the United States. On Calvin's right was Robert Melville, the bank president, and next to him sat Charles Chatterson.

The chairs on the left side of the table were occupied by William Evans, corporation president; Ralph Griffith, who owned a line of transatlantic steamers; President Mercer, Thomas Corby, mine owner, and Samuel King, who had no official business but who was always exceedingly busy.

Beside Grosscup was another man who was bending over a pile of papers, and who Stevens, at first glance, took to be Ashton Lewis, another of the directors. All of the men, with the exception of Samuel King, were smoking.

Stevens stepped quickly to the unoccupied end of the table.

"Gentlemen, may I have your attention for a minute?" he asked.

At the sound of his voice, Chatterson started violently and half rose from his chair. Then, with a shrug, he settled himself again, looking at the newcomer with an ironical smile on his red face.

"What is the meaning of this intrusion, sir?" President Mercer leaned forward and fixed a stony gaze on Stevens, who met his hostile eyes steadily. "Were you not warned to keep out of these offices?"

"I was, Mr. Mercer; but I have something to say to the directors of the S. F. and N. Y. It concerns not

only myself, but every man present. That must be my excuse for forcing myself upon you."

"You will kindly leave at once," said the president; and majestically turned his shoulder, as if the matter were ended entirely.

"I'm sorry, Mr. Mercer, but—"

"If you do not go," rasped Mercer, "I shall have you ejected!"

"And if you do that, Mr. Mercer, I shall walk down to Park Row and call on the city editor of a certain paper which would be only too glad to print what I have to say. And it would make interesting reading for those who criticise this railroad!"

"Blackmail!" rapped out Samuel King.

Stevens turned to him.

"Not at all, Mr. King. I have nothing to sell to you. And I'm asking for nothing except a few minutes of your time."

"Your impertinence—" Mercer was beginning.

He was interrupted by the chairman, a short, stout man, with a huge nose and a crop of heavy black hair.

"Who *is* this young man, Mercer?" he inquired in a booming voice. "Haven't I seen him somewhere before? He looks familiar."

"It is possible, Mr. Grosscup. He was at one time in the employ of the road; but was discharged for dishonesty. Since then he had annoyed me by calling at my office and insisting on talking to me. I have refused to see him."

"Called on me, too," interrupted Melville, the banker, staring hard at Stevens.

"Has he got a name?" asked Grosscup. "Don't seem to place him."

"His name," said the president, "is Stevens, I believe. If you will ring the bell, Mr. Chatterson, we will have him shown out."

Chatterson rose with alacrity; but Stevens stepped in front of the push-button on the wall directly behind the general manager's chair.

"Don't ring, Mr. Chatterson," he said, and his voice had an edge like a knife.

Chatterson paused in irresolution.

Melville laughed hilariously.

"We're nine large men here," he remarked. "Should think we could put him out ourselves, if we all tried at once. What is this anyway, Dan—a directors' meeting, or a session of the grievance committee?"

"More like the latter," returned Grosscup gruffly. "Now, then, Mr. Stevens, if that's your name, what do you want? Can't you see that you're taking up valuable time?"

"If Mr. Chatterson will sit down, I will detain you as short a time as possible," said Stevens.

"Umph!" grunted Grosscup. He made a gesture, and Chatterson reluctantly resumed his chair. "Well, out with it, and talk quick." He leaned back, puffing at his cigar. At the same instant, the man sitting beside him looked up. It was not Ashton Lewis, after all, but Judge Lester. As his eyes met those of Stevens, he nodded and smiled.

"Proceed, O Catiline!" murmured Melville, reaching for the cigar box.

Chatterson rose again, but rather hurriedly.

"Mr. Grosscup," he said, "you will pardon me if I suggest that you do not allow yourself to be imposed upon by this man. He was my subordinate, and I discharged him myself, after mature reflection. He proved himself to be thoroughly corrupt and untrustworthy, and he is entitled to no consideration at this meeting. For you to permit him to present his alleged grievance here to-day would be not only to take up your time uselessly and to no purpose, but would be, in effect, a reflection upon me personally. I am the general manager of this railroad. It would seem to be unnecessary for this board to concern itself with matters that come under my jurisdiction, that properly belong to my department, and that have already

been disposed of by it in a befitting manner."

"Quite right, Mr. Chatterson," agreed the president, while Peter Calvin and Samuel King nodded emphatic approval. "Quite right. Mr. Grosscup—"

"Sit down, Chatterson," interposed the chairman. "We have cast no reflection on your administration; it's far-fetched for you to get any such idea."

"But I would suggest, nevertheless," put in William Evans, "that we hear what this young man has to say, Daniel," turning to the chairman. "He says it won't take him long, and surely it can't hurt us to listen."

"When a man feels that he had not had a fair trial in the lower court, it is his privilege to carry it higher," remarked Judge Lester impersonally.

Mercer scowled at him; but the judge was busy sharpening a pencil and did not appear to note that he had incurred the president's displeasure.

"As I have said before, Mr. Stevens, go ahead," directed Grosscup. "And talk fast. We've lost time enough already."

Stevens drew a long breath.

"Gentlemen, I am thirty-two years old," he began; "I have been employed by this railroad for ten years, in one capacity or another. I held the position of eastern superintendent, and some little time ago, as some of you may remember, I was sent out to take charge of the construction work on the short line."

"Yes, and you bungled it so that you had to be relieved," squeaked Mr. King.

"That is not true," Stevens returned calmly; "and Mr. Collins, who succeeded me at the camp, will bear me out. However, that is not what I came to say to you.

"In odd times during those ten years I worked on an invention. I had almost completed it when I was appointed superintendent of the short line. When I went away I left a number of models and drawings in my desk in these offices. During my absence the desk was opened and copies made of the drawings."

"Drawings and models of what?" inquired Evans. "Please be more specific, Mr. Stevens."

"They were of a safety device, designed to prevent an engine from running past a semaphore set against it, and so minimizing the danger of a collision such as the one which wrecked No. 188 a short time ago."

"How?"

"By automatically shutting off the steam and applying the air gradually. In brief, the safety-signal of which you are to-day prepared to discuss the installation on the S. F. and N. Y., is my invention, and not that of Marmaduke Robinson!"

"Ridiculous," wheezed King.

"What rot," said Peter Calvin.

Corby muttered something unintelligible, and the other directors made various comments. Chatterson only smiled ironically.

"You are, of course, prepared to prove this, Mr. Stevens?" he asked.

"I am."

Again Chatterson smiled and turned to the chairman.

"Mr. Grosscup," he said, "as you know, Mr. Robinson is my nephew. I have been in close touch with his work for years, and I am, therefore, aware of the utter falsity of this man's claim. It is baseless, sir, baseless! A piece of flimsy fabrication. He has made accusations against Mr. Robinson and myself, and will repeat them to-day—"

"Well, let him repeat them," interrupted Grosscup. "Go on, young man. What have you to say?"

Chatterson straightened disdainfully in his chair.

"I have looked thoroughly into this," he said sharply, "and I—"

"Then why shouldn't we do the same, Mr. Chatterson?" Melville wanted to know. "For this chap to claim that he invented that signal is a

pretty serious matter, you know. If he can prove what he says—"

"Bah!" He can't!" snapped the general manager.

"Then there should be no opposition to his attempt to give proof."

Chatterson assumed a look of righteous indignation.

"I have nothing more to say. If you choose to put this affront upon me, I must submit."

"Go on, Mr. Stevens," said Grosscup.

As briefly as possible, speaking in a rapid, clear voice, Stevens sketched the substance of the two interviews that had taken place in Chatterson's office. He told how the trivial incident of Camm's discharge had caused Chatterson to send for him; of how this had been made to lead up to the subject of the invention, and how Chatterson had claimed it for the road, backing up his claim by the spurious assignment.

He told of the offer of a position, with increased salary, in Colorado, and of the proffered two-thousand-dollar bribe; of his refusal to listen to the proposition; of Chatterson's subsequent threats to have him arrested on the ground that he had stolen the drawings from Robinson, should he make any attempt to get justice for himself.

He told of the visit Robinson had made to the Summers's house, and the ransacking of the desk there for the information that could not be obtained from the drawings in the office; and he expressed it as his belief that Robinson, being unable to figure out the intricate mechanism of the device by himself, had enlisted the aid of Burley, the inventor.

He told of his discovery of the finger-print, of his unavailing efforts to see Mercer, Grosscup, and the two other directors. Finally, he gave a swift summary of the events of the past few days, winding up with the story of the attempted robbery and the successful sortie from the taxi-cab.

The directors listened closely. It was clear that they were interested, but it was also clear that they were extremely skeptical. From time to time Samuel King snorted or interjected some such word as "Ridiculous!" "Absurd!" "Tommyrot!" Stevens paid him no attention.

"I charge Maramaduke Robinson with copying my drawings, with forcibly breaking open my private desk and stealing information therefrom!" Stevens's voice rose a little. "I charge him with forging my signature and with exploiting the knowledge gained from me from his own benefit.

"And I charge Charles Chatterson with conspiring with Robinson in the matter of both the theft and the forgery; of inciting his secretary, Augustus Flint, to swear falsely in the matter of the signature on the assignment. I charge him with intimidating the man, Burley, and with making false reports to the president and directors of this road in order to prevent me from obtaining a hearing.

"And, lastly, I charge him with spiriting away my witnesses; with sending two men to rob me at my home, and with instigating the assault of which I was the victim this morning!"

He towered over the group around the table—a strange and terrible figure, disheveled, streaked with blood and dirt, yet radiating almost uncanny force and power.

Chatterson leaned forward in his chair. His short, fat fingers rapidly smoothed over the lock of hair that crossed the crown of his head.

"You have heard this person, gentlemen," he said in his silkiest tones. "You have listened patiently to his outrageous statements. Now, may I suggest that he be asked to bring forward his proofs? We shall be most pleased to see them."

"Before we go on," said President Mercer, "I want to go on record as saying that I feel we have grossly insulted Mr. Chatterson in listening to this man's fanatical harangue. The fellow is either crazy or intoxicated.

From his appearance I should think it not unlikely that he might be both."

"He does look a little seedy," conceded Melville; "but a man who's been sandbagged and kicked around the gutter can't be expected to appear immaculate. I wouldn't say he was drunk, and he talks sane enough. Still, his story *doesn't* sound very plausible. What do you think, Daniel?"

"I think," said the chairman slowly, "that Mr. Stevens has treated us to a story beside which the most fantastic and improbable of the 'Arabian Nights' tales pales into complete insignificance!"

CHAPTER XXIX.

Chatterson Scores Again.

BURLEY shuffled awkwardly into the room and stood irresolutely by the door. The little, gray man was plainly uneasy. He shifted from one foot to the other and seemed not to know what to do with his hands. He did not look at Stevens. From the moment that he entered his pale eyes had been fixed imploringly on Chatterson.

The general manager smiled patronizingly.

"Burley," said he, "these gentlemen would like to have you tell them who, to the best of your knowledge and belief, discovered the basic principle of the automatic safety signal, some of the minor details of which you worked out for us."

"Why, Mr. Robinson, sir." The reply came promptly and without hesitation.

"Who gave the data to you, Burley?"

"He did, sir. He gave me all his drawings. I just fixed them up and put them in shape for sending to the Patent Office."

Stevens felt his heart sink. Was it possible that his theory was wrong; that Burley was not the man who had twice whispered to Sandy that there was "mischief afoot"? Or was the little gray man lying because he feared Chatterson?

"You never thought there was any question as to the real ownership of those drawings, Mr. Burley?" asked Grosscup. "You are certain that Mr. Robinson invented the device?"

"Yes, sir."

"And you would be willing to swear that he did—that he and he alone invented the signal?"

"Yes, sir. Of course, sir."

"You never saw any drawings or models made by any one else, of the same or a similar device?"

"No, sir."

"That is all, then. Thank you."

Burley turned to go. As he did so he saw Stevens standing by the end of the table.

Every bit of color ebbed from the face of the little gray man. He stared for an instant into the grave, blue eyes that met his so steadily.

Then he wheeled about, his head flung back, his shoulders braced, his dull eyes blazing bright with a new purpose.

"It's a lie!" he almost shouted. "I lied, Mr. Grosscup. Robinson didn't invent that signal. John Stevens did! I saw some of Mr. Stevens's drawings by accident a year ago. He didn't know it; but I did. Robinson stole them out of the desk in the office and copied them. He brought the copies to me and told me to go ahead and work on them and not to say anything. He's no inventor; he doesn't know the first thing about mechanics. That signal belongs to John Stevens!"

With an exclamation of furious dismay, Chatterson had half risen in his chair at Burley's first words. The next instant he had mastered himself, however, and was smiling tranquilly when he spoke.

"I regret to be obliged to state, Mr. Grosscup, that Burley's evidence is hardly reliable," he said smoothly.

Grosscup raised his eyebrows.

"He was your witness, Mr. Chatterson, sent for at your request."

Chatterson spread out his hands, palms downward, in a gesture of deprecation.

"We all make mistakes, Mr. Grosscup, and I made one when I thought that Burley might have reformed. I hoped so, I believed so; but apparently he has not. He served a term in State's prison for perjury. In addition to that, he is now out—"

"Yes!" shouted Burley, "and you have made my life a hell because of it! You held exposure over my head as a threat so that I'd do your dirty work for you. You told the men I'd been in jail and that I was under suspended sentence for another offense. You made them think I wasn't fit for them to speak to, and they kept away from me as if I'd had the plague.

"John Stevens is the only one who ever treated me like a white man. He knew all about me, and yet he was kind to me. I could hold up my head when I was with him. He treated me like a man, not like a thing, I tell you! And I won't see him robbed by you—I won't—I won't!"

His voice rose to a scream; then suddenly he dropped his head in his hands and burst into sobs.

There was a silence, broken by Chatterson.

"I saved this man from a second term in prison," he said solemnly, "and this is his gratitude. This is the thanks I get—this tirade of falsehoods. He cannot speak the truth, for the truth is not in him!"

"Send him away," said Peter Calvin. Grosscup nodded acquiescence.

Burley stumbled to the door, his shoulders still heaving with sobs.

"I'm no good, Mr. Stevens," he said in a muffled voice. "It's too late; I can't help you. They won't believe anything I say."

"They certainly will not!" declared Chatterson, and motioned Flint to shut the door. "Another piece of Mr. Stevens's 'proof' is disposed of, gentlemen," he continued. "Do you desire to proceed with this farce, or have you submitted me to a sufficient number of indignities?"

Melville dropped the stub of his cigar on an ash-tray and reached for a fresh smoke.

"I, for one, think we'd better sift this to the bottom," he said. "It would be bad business to leave it here. What do you think, Daniel?"

Grosscup nodded.

"We've given so much time, we may as well give a little more and finish it up. Now, Mr. Stevens, as I understand it, the matter stands this way:

"You assert that you had a detectaphone secreted in Mr. Chatterson's office, and that two stenographers, employed by you, overheard conversations between Mr. Flint and Mr. Chatterson and between Mr. Chatterson and Mr. Robinson, which completely substantiated your allegations.

"That you did purchase a detectaphone we know; the president of the company corroborates your statement and is willing to produce the record of the sale. But, although you claim you had the receiving mechanism installed in the office on the seventh floor, above Mr. Chatterson's, the agent of this building has, in your presence, denied that he rented such an office to you. The charwoman who, you say, saw you at work putting up the wires is apparently a myth; and you can produce neither the stenographers nor their transcript of the alleged conversations.

"So far, all you have to bear out your charges are your purchase of the detectaphone and a hole in the window-casing of Mr. Chatterson's office. The office on the seventh floor is vacant and entirely devoid of furniture. There is nothing there to indicate that any detectaphone was ever set up there, not even the desk and chairs you described.

"The agent has accounted for your possession of this key which fits the

door of the seventh floor office." The chairman held up the key which Stevens had brought with him. "It was lost some time ago, when he was showing prospective tenants through the building, and could have been picked up by you.

"The testimony of the man Burley may be discounted because of his record. Alexander Everett, whom you say you will call in to corroborate your statements, has been your closest friend and would not be a disinterested witness. Besides, he did not hear anything, you say, except at second hand, and he saw none of the drawings or models you affirm you made.

"We do not question the fact that an attempt was made to rob the house where you live or that you were assaulted this morning. The former is attested to by members of Miss Summers's household and by neighbors; the latter is a matter of police record.

"But it is quite within the bounds of possibility that you yourself instigated both robbery and assault. In playing for a stake such as this an unscrupulous man would stop at nothing. He would not hesitate to manufacture such evidence as this. Am I right, Mr. Chatterson?"

"Perfectly, Mr. Grosscup—perfectly and eminently right." The general manager bowed in his most polished manner.

"Now, Mr. Stevens," Grosscup continued, stern frown on his face, "in the absence of any corroborating evidence, I should be obliged to brand your story as preposterous and your charges too wild and improbable to be regarded seriously for a moment.

"I say, 'in the absence of any corroborating evidence.' You have produced none worthy of the name. If a smart young man desired to do a good stroke of business, and at the same time revenge himself for some fancied grievance, this would seem to be just the sort of scheme he would concoct to do it. Am I right again, Mr. Chatterson?"

"You are, Mr. Grosscup," burbled the general manager. "You are right again, as always."

CHAPTER XXX.

Mr. Chatterson Chats a While.

SICK at heart, Stevens had listened to the summing up of the chairman. He had realized what the end must inevitably be as, one by one, the links in his slender chain of evidence were broken or used in the chain of his enemies.

With growing discouragement he had heard the agent of the building deny renting the office on the seventh floor to him and Sandy, and declare that no charwoman by the name of Annie had ever been employed on the premises. The woman herself had vanished. Probably she had been spirited away, as had the two stenographers, Blake and Simpkins.

During the night all traces of the detectaphone had disappeared from Chatterson's office, and the desk and chairs removed from the room above. Dust had even been scattered about the floor to show that no one had occupied it or even been in it recently.

Flint, coached in his part, had lied unfalteringly. He had declared without hesitation that, in his presence, John Stevens had signed the assignment at the same time that he signed the two contracts required by the general manager.

Not that the assignment was of any special value, in the face of the charge that Stevens had filched the original idea for the signal from Robinson, but it simply served, according to Chatterson, to illustrate how little reliance was to be placed on any statement that Stevens might make.

It was all useless, useless! And yet Stevens clung doggedly to the forlorn hope that he would be believed. If this were only a court of law, and he could present his side of the case to an unbiased judge or jury!

But it was not. He had no one to plead for him except himself. Every one was prejudiced against him, and discounted in advance everything he said.

Judge Lester, sitting quietly by Grosscup's side, had not uttered so much as a word after his remark about the higher court, although he had been an interested spectator of the proceedings.

Chatterson was radiant. The way in which the chairman had, from time to time, deferred to him, asked his opinion and concurred in it, had put the finishing touches to his triumph.

He never had any real fear of Stevens; but the young man's stubborn persistence had irritated him greatly, and because of Grosscup's determination to hear both sides of the case he had been unable to give vent to his annoyance.

Furthermore, he had scarcely been able to utter more than a few sentences at a time during the course of the entire meeting; and he felt that he had been slighted. He yearned to talk, did Chatty Charlie. Almost bursting with triumph, he had restrained his constitutional desire to orate until it threatened to get the better of him.

His opportunity came when Grosscup, having branded Stevens's charges as "wild and improbable, absolutely unsubstantiated, and completely disproved by the evidence presented against them," turned to the board with this question:

"Gentlemen, what is your pleasure in regard to this matter? What action shall we take? Will any one make a motion?"

"I move—" Melville was beginning; but Chatterson had no mind to let such an opportunity slip. Here was a chance to wind his own horn. He raised his hand.

"One moment, I beg." It was his best platform manner. "Before you take any action, Mr. Chairman and gentlemen, I should like to say a few words. This young man, John Stevens, stands before you convicted of attempting to defraud this great railroad, to filch from Mr. Marmaduke Robinson the fame and glory that rightfully attach to him as the inventor of this valuable safety device, and to smirch his name and reputation. Of the charges brought against me personally I need not speak. I am, fortunately, above suspicion."

"Like Cæsar's wife," murmured Melville, settling himself in his chair. Evans grinned, with gentle boredom.

"Like Cæsar's wife," assented Chatterson. "I thank you, Mr. Melville. All of you gentlemen, knowing that I have for some time been cognizant of a part at least of this dastardly plot, are doubtless wondering why I did not take steps to have the author of it punished. It is my wish that you should know and understand my motives for the stand I have taken throughout.

"My watchword, my motto, has ever been, 'With malice toward none, with charity for all.' I strive to apply it in my daily life, in all my dealings with my fellows, and more especially in my associations with those to whom it is not given to see the right.

"To explain fully. When it became known to me that the superintendent in charge of the short line construction work was not according his subordinates fair and just treatment, I sent for him, with the intention of reasoning with him, pointing out to him the error of his course and endeavoring to show him the right.

"More than one instance in which he had been derelict in his duty had been reported to me. It was *my* duty to see that such a state of affairs continued no longer. He came to me, as you know; and the substance of our interview was as he crudely outlined it to you.

"I remonstrated with him gently as a father might; he did not take my suggestions in good part. He was inclined to be self-sufficient and to resent my admonitions.

"When, in the course of the conver-

sation, I learned that he had been working on an invention, using the time which was not rightfully his to use, I was grieved. But picture my feelings when it transpired that, notwithstanding the assignment I had caused him to make, he proposed to use the invention for his own personal benefit!

"I pointed out to him the impossibility of this and showed him that for him to attempt such a thing would be sheer dishonesty. He refused to be guided by me; he defied me in open insolence!"

"The nerve of him!" said Evans slangily.

Chatterson nodded vigorously.

"You put it very aptly, Mr. Evans. As I say, he defied me and announced that he would fight the claims of the road, repudiating his own signature and charging the notary public with swearing falsely!

"Gentlemen, I was astounded and dismayed. His audacity took my breath away. That was the time when I should have laid the whole matter before President Mercer; he would have dealt with it. But I was sorry for this poor, misguided young man. He was young; he was weak.

"A great temptation had come to him, and he had not been strong enough to resist it. I wanted to give him time to think over the enormity of the course he had mapped out for himself. I gave him another chance. But did he take it? No!" Chatterson's voice rang out nasally.

"No, gentlemen! He did *not* take that chance. He persisted in his evil way, and his persistence was his own undoing. For, in the time between the first and second interviews, I discovered that the invention he claimed to have made was no other than the one which Mr. Robinson had already patented.

"I was thunderstruck. My first impulse was to swear out a warrant and leave the young scoundrel to the fate he had brought upon himself. My second impulse, less wise, was to give him one more chance, for the sake of his father. I reasoned that with such a parent he could not be all bad; but my reasoning did more credit to my heart than to my head—as you have seen.

"I bade the young man go free, warning him that unless he reformed he would bring himself lifelong sorrow and disgrace. He could not harm me; he could only harm himself. Even when he assailed me in a letter to President Mercer I held my hand, tempering justice with mercy. To be the instrument by means of which the son of Marcus Stevens was sent to the penitentiary—I could not bear the thought!

"But I was wrong, gentlemen; I should have bowed to the inevitable. By my leniency I have perhaps prevented him from receiving a lesson which might have helped him. Silence, solitude, and meditation might have shown him what mercy and charity had failed to make clear—that honesty is the best policy and that an upright life is the only happy life.

"I say 'might,' for who would now be willing to say that there is any latent good, any truth, any honesty in this untrustworthy, discredited, and degraded young wretch, John Stevens?"

Chatterson paused for breath.

Grosscup, leaning forward, rapped sharply on the table.

"Gentlemen, you have heard Mr. Chatterson," he said. "I will now entertain a motion."

Robert Melville rose slowly to his feet. One hand was thrust into the pocket of his trousers, the other held a lighted cigar which he waved gracefully in the air.

"I move you, Mr. Chairman," he rolled out, "that, as private citizens and members of the board of directors of the San Francisco and New York Railroad, we express our entire confidence and belief in, and our absolute, unqualified approval of—this *untrust-*

worthy, discredited, and degraded young wretch, John Stevens!"

"I second the motion," said Evans promptly.

CHAPTER XXXI.

For the Honor of the Road.

HAD a cannon been fired into the midst of the assembled directors the sensation could not have been greater. Out of the ten men present but four were unaffected—Melville, William Evans, Grosscup, and Judge Lester.

Stevens, unable to believe that he had heard aright, stood staring incredulously at the debonair Melville, wondering if he had taken leave of his senses.

President Mercer, for once shaken out of his frigid dignity, sat with open mouth and dropped jaw.

"The man's mad!" he gasped.

There was a chorus of assent from King, Calvin, Griffith, and Corby. Chatterson had sunk back in his chair, gaping helplessly like a fish out of water.

"It is moved and seconded," said Grosscup in measured tones, "that, as private citizens and as members of the board of directors of the San Francisco and New York Railroad, we express our entire confidence and belief in, and our absolute, unqualified commendation of—John Stevens. Before I put the vote, are there any remarks?"

Chatterson started to his feet, his hands closing and unclosing, his face working violently.

"Mr. Chairman!" he screamed, "I protest against this outrage, this travesty of humor, this disgraceful aspersion cast on—"

Grosscup picked up a book and banged it on the table.

"Sit down, Mr. Chatterson!" he ordered. "You've done your share of talking for to-day. Give some one else a chance."

"I protest! I—"

"There's a motion before the board!" thundered the chairman.

Melville reached out a long arm, grasped Mr. Chatterson firmly by the coat-tails, and yanked him back into his chair with a jarring thud.

"Evans, will you take the chair?" asked Grosscup. "I want to make a few remarks myself."

Evans having complied, Grosscup proceeded in his big, booming voice:

"A few days ago my partner, Judge Lester, intimated to me that there was something rotten in the state of Denmark; he also stated that he knew what it was, and was anxious for me to share his knowledge.

"At his suggestion I had a detectaphone installed in the vicinity of the alleged plague-spot, or, to speak more plainly, in the office of the general manager of this railroad, and relieved my private secretary of all other duties in order that he might listen to what was going on.

"Shortly after two o'clock yesterday afternoon he reported to me that something interesting was going to be heard over the wire, and surrendered his place to me.

"It happened that Mr. Melville and Mr. Evans were in my office at the time, and, in view of the fact that they were members of this board and directly concerned, Judge Lester made another suggestion, namely, that they should both participate in a little informal hearing. The affair was quite impromptu, but successful.

"What the four of us heard over the wire not only bears out Mr. Stevens's statements in every detail, but brands Marmaduke Robinson as a thief and a forger, and, I am sorry to say, Charles Chatterson as accessory before and after the fact, a suborner of perjury, and a lying, canting hypocrite! The last is not an anticlimax; to my way of thinking it is as bad morally, if not legally, as his other crimes! Here is the transcription of the stenographic notes of the conversation yesterday."

Grosscup pushed a pile of typewritten sheets toward the center of the table. Half a dozen hands reached eagerly out for them.

"I presume," he added ironically, "that had Mr. Chatterson known of their existence he would have employed some more thugs to assault Judge Lester, Mr. Melville, Mr. Evans, and myself, and possibly have had us put quietly out of the way."

"Gentlemen, are there any more remarks?" asked the chairman pro tem.

Chatterson tried to speak, but nothing save a rushing whisper issued from his white lips. Every particle of color had fled from his face. From head to foot he was shaking like a man with the palsy.

Grosscup looked at him with contemptuous disgust.

"Chatterson," he said, "there isn't any kind of punishment too bad for a man like you. If I had my way you'd go up the river and try the effect of 'silence, solitude, and meditation' for an indefinite period, along with your promising nephew, who, by the way, is waiting in my office to sign a full confession of his part in this affair and an assignment of the patent rights vested in him to Mr. Stevens."

"A moment, Mr. Grosscup."

President Mercer had risen to his feet. He had recovered his composure and was clothed in all his usual calm and icy dignity.

"A moment, Mr. Grosscup," he repeated. "Before you go further I desire to tender to Mr. Stevens my personal apology for the treatment he has received at my hands. My only excuse is that I was misled and deceived. I am more sorry than I can possibly say. I hope the directors, with one exception"—here he glanced with cold hate at Chatterson's huddled figure—"will follow my example."

He turned and held out his hand to Stevens.

"Mr. Stevens, will you accept my apology—and my hand?"

Like a man in a dream, Stevens stepped forward. The pain in his head was getting worse momentarily; his knees were trembling so that they threatened to give way beneath him. He tried to speak, but the words stuck in his throat. He could only stand dumbly, fighting for self-control as the directors filed solemnly past him, uttering expressions of good-will.

Judge Lester was the last in the line.

"How do you like the attorney I got for you, Jack?" he asked, a twinkle in his gray eyes. "Did he suit? You said any one I recommended would be satisfactory to you, so I recommended myself!"

"I can't thank you," Stevens got out huskily.

The pain in the back of his head had become a throbbing, blinding agony. Every muscle and nerve of his bruised body ached until he could scarcely keep his feet.

"I can't thank you, Judge Lester," he repeated. "But some day—"

"Hold on!" exclaimed the judge hastily. "That'll do. Grosscup is speaking to you. You're wanted over there, it seems."

By order of the chairman Marmaduke Robinson had been brought down from the seventh floor offices. He was a pitiable object—terror-stricken, cowering, with all his elegant manner, all his majestic bearing gone.

"Mr. Stevens, it seems to be the consensus of opinion among the members of the board that you are the one to decide just what action shall be taken in regard to these." Grosscup waved his hand toward the two abject figures. "Their crime was directed toward you. You have been the chief, indeed—so far as we know—the only, sufferer. What would you suggest doing with them?"

The room was going round before Stevens's eyes. The faces of Grosscup and Melville, who stood side by side, merged into a white blur. He put out one hand and caught the edge of the table.

"Nothing," he said.

"Nothing?" Grosscup was surprised into raising his voice sharply. "You mean you don't want them punished?"

Stevens gathered all his strength into a last effort and fought off the overpowering faintness.

"We can't afford any publicity, Mr. Grosscup; but that won't be necessary. Those two men will be punished, just the same. They will be pariahs, outcasts from their kind—and I know what that means. I've been through it. They'll be shunned, avoided, held in abhorrence. To be discharged in disgrace, discredited—it's horrible."

"Yes, yes," said Grosscup. "But legally—"

Stevens groped for words; the mists seemed closing in about him.

"Don't you see, Mr. Grosscup—this mustn't come out? Chatterson is the general manager, Robinson the eastern superintendent. Whatever they have done, they belong to the S. F. and N. Y." He swayed unsteadily, his eyes half closed. "We can't send them to jail," he muttered thickly. "The honor of the road—"

With a quick exclamation, Judge Lester sprang forward just in time.

"And believe me, Dan," he said to his partner twenty minutes later, "any chap who would stand up for an hour and go through that grilling ordeal, and then talk about the 'honor of the road'—any chap that would do that with a three-inch gash in the back of his head is some man!"

CHAPTER XXXII.

On the Lesters' Veranda.

"I CAN'T go," said Everett. "I'm not fit to go. I'm a very sick man."

"You're nothing of the sort," Stevens contradicted flatly. "There's nothing the matter with you."

"I'm sick," Sandy declared firmly. "I'm very sick. I can't go."

"You can and you shall!"

"I can't, and I won't!"

They faced each other, each equally determined; then Stevens tried another tack.

"Now, look here, Sandy," he expostulated, "I promised you'd be there, and Miss Lester expects you. Moreover, the judge wants to see you. You're perfectly well, and you know it. That dinky little hole in your arm has done duty as an excuse for the last time."

"It's not a dinky little hole," said Sandy, aggrieved. "It might have been a very serious wound. It's just as bad as that measly scratch on your head every one's been making such a hullabaloo about. And, anyway, the original engagement was made for Saturday night, and you had no business to make another for to-night. You did it on your own responsibility, without consulting me, and—I'm—not—going!"

Stevens shrugged.

"Very well. Then I shall telephone to Miss Lester and say that you refuse to come just out of sheer cussedness; and I shall tell her that you are *afraid* of her!"

He opened the door and started down the stairs. Half-way to the bottom he was halted by a faint hail from Sandy.

"Jack, I say—Jack! Come back. I'll go."

And Stevens, grinning to himself over the success of his ruse, went back.

An hour later they descended the stairs together. Miss Melinda and Mrs. Parr were on the front porch, armed with long sticks of burning Chinese incense to keep away imaginary mosquitoes.

Ever since the day of the directors' meeting, when Stevens had been brought home in Robert Melville's automobile, very pale and shaken but jubilantly happy, Miss Melinda had been in her element.

She had fussed over Stevens and

Sandy until she had nearly driven them crazy; and the one bitter drop in her cup was that both of her patients recovered so rapidly. She would have liked to nurse them indefinitely.

"I do hope you're not overtaxing your strength by going out," she fluttered anxiously as they emerged on the porch. "You're sure you feel well enough to talk, Mr. Stevens—quite sure?"

"Oh, I'm right as rain, Miss 'Linda."

"And you, Mr. Everett?"

"As well and happy as a cooing dove, Miss Summers." Sandy's comparisons were generally inaccurate and frequently unhappy.

Mrs. Parr looked up at him, her eyebrows rising to meet her false-front.

"In love!" she snorted. "You in love! And with whom, pray?"

"Oh, Aunt Parr!" exclaimed Miss Melinda in horror.

"Not me!" Sandy disclaimed hastily. "You misunderstood what I said, Mrs. Parr."

"Oh, you meant him!" Mrs. Parr turned a disapproving eye on Stevens. "I suspected as much. I suppose it's that Lester girl. Well, she's pretty and smart enough, but I don't hold with marrying myself."

"I'll bet Parr didn't, either, after he'd been married a while," remarked Sandy in a whisper.

Mrs. Parr continued in spite of Miss Melinda's frantic signals for silence:

"I thought it couldn't be you, Mr. Everett. You have too much sense."

"They'd have to hog-tie me and carry me to the altar," returned Sandy cheerfully. "Come on, Jack; let's get the agony over."

"That's the end of you, Melinda Summers," said Mrs. Parr grimly as the two men went down the path. "He didn't deny it, and his face got as red as a sugar beet. He *is* in love with the Lester girl—and you haven't a chance. Not that you ever had."

To her surprise, Melinda laughed.

"Do you suppose I thought so, Aunt Parr? Why, I'm old enough to be his mother! And I'm glad, glad, *glad* he cares for Ruth Lester, because she's a lovely girl, and he deserves all the happiness in the world. He's so kind-hearted, so good, so even-tempered, so handsome—"

"Handsome is as handsome does," said Mrs. Parr darkly. "And here he's going off to get married, and leaving you with those rooms not rented! Heartless, *I* call it!"

A moment later she added: "And how we shall miss him!"

A tear slipped down over her wrinkled cheek, and she wiped it away surreptitiously, so that Miss Melinda should not see.

The full moon was just coming up over the tops of the trees when Stevens and Everett turned up the walk to the Lester house. The judge was alone on the piazza. He greeted them cordially, and sent Packard for the young ladies, who, he explained, were somewhere about. In a moment Ruth hurried out of the front door.

"Oh, I'm so glad to see you, Mr. Stevens!" she exclaimed. "We've been so worried about you. You're feeling quite well again?"

Stevens said he was, held her hand a little longer than was necessary, and presented Sandy.

"I'm very glad to know you, Mr. Everett," Ruth said sweetly. "It is more than good of you to come."

"Yes, thank you, I am—I mean, it is—I—" stammered Sandy, who had been seized with an acute panic. "We, that is, I—yes, thank you, so am I—"

The judge came to his rescue.

"Where is Elizabeth, my dear?" he asked his daughter.

Ruth looked around.

"Why, she was right right behind me, father. Elizabeth!" with prettily raised voice. "Elizabeth! Where are you?"

"Here," said a still, small voice; and Elizabeth Schuyler came through the doorway with slow, unwilling feet.

"Miss Schuyler, my cousin, Mr. Everett," said Ruth as she introduced them.

"How—how do I do?" said Miss Schuyler faintly. And: "You're very glad to meet me," gasped Sandy.

Ruth brushed away a smile with her handkerchief. Stevens hastily turned to the judge, who appeared to be in imminent danger of choking to death.

"It's all right," he said presently. "I must have swallowed some smoke. Sit down here, my boy, and you come over here, Ruth. Mr. Everett, you and Elizabeth will find some very comfortable chairs by those hydrangeas.

"Oh, by the way," he added, a sudden thought seeming to strike him, "did I understand your first name was Alexander, Mr. Everett?"

"Yes, sir," said Sandy.

And your middle name is—?"

"Hamilton. My father was a great admirer of Alexander Hamilton, and named me for him."

It was a long speech for Sandy in his present condition, but he managed it somehow.

"H-m," said the judge. "H-m. Quite a coincidence! Alexander Hamilton and Elizabeth Schuyler!"

"Father!" whispered the horrified Ruth. "Oh, you are dreadful!"

"Yes," the judge went on, not heeding her, "a very curious coincidence. Don't you think so, Elizabeth?"

Miss Schuyler blushed painfully, but found no answer. She stood twisting her handkerchief into a hard little ball and then untwisting it again. She had a snub nose, indefinitely brown hair, and big gray eyes. She was very small. By the side of Sandy she looked positively tiny.

"A very curious coincidence," repeated the judge for the third time; "Eh, Mr. Everett?"

"I—you—dare say," faltered the miserable Sandy, now in a state bordering on collapse. In desperation he turned from his tormentor and met the wide eyes of Miss Schuyler fixed on his in fear and dismay.

Her expression gave him a curious sensation. For the first time in his life he was face to face with a girl who was as much, if not more, afraid of him than he was of her. He squared his shoulders and threw out his chest.

"May I offer you a chair, Miss Schuyler?" he asked grandly.

"Thank you," said Miss Schuyler meekly, and followed him to the rockers by the hydrangeas.

The judge chuckled and Stevens laughed outright. Ruth looked at her father reproachfully.

"It's a shame, daddy," she said. "You know, Beth—"

"I do know Beth," said the judge, "better than she knows herself. The best way to teach any one to swim is to throw 'em into the water.

"Jack"—quite naturally he had fallen into the habit of calling Stevens by his first name—"Jack, what would you say to a game of pinocle?"

What Stevens would have said, had he dared, would have been more emphatic than polite. What he actually did say was:

"I'm afraid I'm not much of a player, judge."

"Oh, I expect to beat you," the judge answered cheerfully. "Shall we go inside?"

Stevens heaved a sigh of resignation.

"Just as you like." He was not looking at the judge, but at the judge's daughter, who looked at him and then turned her head quickly away. How lovely she was with that soft flush dyeing her smooth skin. And how sweet—

"Yes, I expect to beat you," said the judge complacently, leading the way to the door.

Like a lamb to the slaughter Stevens followed, leaving Ruth sitting in the chair by the railing. He gazed longingly over his shoulder, but she did not turn to look at him.

The judge was rambling on pleasantly.

"We'll play in the library, where we'll get the breeze from the west. Pinocle is a great game, Jack. I was telling old Mr. Sawyer, Monday night, that—" He paused suddenly. "Bless my soul!" he ejaculated; "what day is this?"

"Thursday," said Jack.

The judge slapped his thigh.

"And I promised Sawyer faithfully I'd have a couple of games with him to-night. I'm afraid I'll have to disappoint you, Jack."

"I'm so sorry," said Stevens, in the tone of a condemned man who has just been pardoned by the Governor.

"Never mind, though," said the judge consolingly. "There are lots of other evenings. I'll have to hurry along; but I'll be back early."

He got his hat from the rack in the hall and departed, promising not to be gone a moment longer than he could help. Stevens returned to Ruth.

"Where did father go?" she asked. "I thought he was going to play cards with you?"

Stevens sat down in the chair beside her and moved it nearer the railing.

"He remembered an engagement to play with old Mr. Sawyer."

"With old Mr. Sawyer? Why, he's sick in bed! They have a trained nurse for him and he isn't allowed to see any one at all. You must have misunderstood father."

Stevens thought it over a moment. Then he began to smile quietly.

"Your father is a pretty fine sort, Miss Lester," he said. "Thanks to him, I've been reinstated as eastern superintendent of the S. F. and N. Y., and Sandy has a better job than the one he lost. The road is going to give my safety device a trial, and I'm to have full charge and a free hand. It's all due to your father—and you!"

"I'm so glad for you," breathed Ruth. "But why to me? What had I to do with it?"

"Everything. You gave me the idea for the detectaphone and suggested that I go in person to that directors' meeting. And your father says he would not have thought of using a detectaphone either, if you hadn't spoken of it. Your encouragement all the way through; your—"

"Listen!" said Ruth suddenly. "What's that?"

Through the silence came the low, steady murmur of voices. No words were audible; but it was easy to distinguish the fluty treble of Elizabeth Schuyler and the rumbling bass of Alexander Hamilton Everett. They were talking fast and hard. Every now and then a duet of laughter rang out.

"Elizabeth—talking to a man!" whispered Ruth.

"Sandy—talking to a girl!" said Stevens in an awed tone. "The millennium has arrived. And he seems to like it. Your cousin must have bewitched him. I hope"—his hand stole out and his fingers closed over hers—"I hope she doesn't loose the spell, for now *we* can talk."

Ruth tried to draw her hand away; but, perhaps, she did not try very hard.

"Please!" Stevens whispered. "Do you remember telling me last Saturday that you hoped I'd get everything I wanted at the meeting?"

"Y—yes."

"And I told you there was one thing the directors couldn't give me, but that they could put me in a position where I could ask for it later on. Can you guess what it was?"

There was no answer. Only a shake of a bowed head.

"Then, may I tell you?"

Evidently she did not find the telling displeasing; because when the judge returned from circling the block three times, the two chairs by the railing were very close together. Ruth's face was no longer averted, and she seemed quite satisfied to let John Stevens hold both her hands.

And Elizabeth and Sandy were still talking.

(The end.)

HAULING MAINE'S BIG CROP OF "SPUDS."

It Requires 28,000 Cars to Transport the Annual Output Which Amounts to 23,000,000 Bushels.

BY SAM E. CONNOR.

SUPPOSE as the head of a railroad traffic department you had to solve the problem of transporting about nineteen million bushels of potatoes to market in freezing weather, with less than 5,000 box cars, what would you do? A few more statistics add interest to the problem.

The road handles freight other than potatoes. This also requires box cars, for it amounts to several hundred thousand tons annually, to use round numbers. The average car holds 650 bushels of potatoes, which means that 28,000 cars will be necessary to handle the crop.

In turn this means almost exactly 814 trains of thirty-five cars. In the event that the locomotives are capable of handling forty-car trains, 101 trains less are necessary. The crop can be handled by approximately in 713 trains. The shipping season is spread over a period of seven months, but seventy-five per cent of the crop is shipped in December, January, and March.

This problem is not fanciful nor imaginative; it is a fact. It is the problem which the Bangor and Aroostook Railroad's traffic men must solve.

The Bangor and Aroostook is, practically, the only outlet of Aroostook County, the great potato region of Maine. At but four points in the county is any other road available. To use the other lines means that the shipper must send his goods from seventy-five to one hundred and ten miles farther than on the Bangor and Aroostook.

The crop of the county during last season averaged twenty-three million bushels. Eliminating rot, small, unmarketable tubers and those retained for seed for this spring, there is about nineteen million bushels to ship. Of this amount fully ninety-six per cent will pass over the B. and A. This road has 2,687 box cars. These cars must handle the potatoes.

At the commencement of the shipping season the big shippers, those who load several cars a day, were given a number of cars to be used exclusively by them. Immediately these cars were converted into temporary warm cars. This was done by lining the cars, or sheathing them with matched lumber and installing a stove.

It costs about seventy-five dollars to fit up a car. Because of this cost the cars are assigned to the service of one shipper for the entire season. No dealer could afford to line a car for one trip. Foreign cars do not help the potato shipper. The name of the man or concern to which the car has been assigned is placed upon it. As quickly as it is unloaded the car is rushed back to its destination.

When the cars have been loaded the stoves are fired. With each lot the shipper sends a man, who attends to the fire. Sometimes a man has two or three cars to look after, but this rarely happens.

Once these cars start they are delayed only by wrecks. They are landed at destination as quickly as possible. The average time for a car to complete a round trip to Boston is about two weeks; to New York a week is added.

A portion of this potato crop is shipped to the Bangor and Aroostook's seaboard terminal. About two train-loads, or seventy cars a week, go that way. These cars make a round trip each week. In other words, a car used in sending potatoes to the seaboard terminal makes twice as many trips a month as one in the Boston trade, and three times as many as one running to New York.

The plan of the road is to allot a sufficient number of cars to each shipper, that he will be able to run cars constantly throughout the season. This is why the cars of other roads will not help. They can't be turned over to him to line, because lining is too expensive for a single load.

A good many Eastman heaters are used on the road both in the potato business and as refrigerators. For the most part they go to the small shippers, because they can't afford to line cars. The mileage of Eastman cars during the last season on the B. and A. was 335,396.

At first thought it would seem impossible for the road, with its limited equipment, to care for this vast amount of traffic, but when the season is ended every bushel has been moved.

On the Editorial Carpet

In Which We Waybill a Full Tonnage of Ammunition for a Run Down the Main Stem to the Firing Line.

DECEMBER SIGNALS.

MAKING a magazine is not merely a matter of purchasing a lot of stories and articles and using them for the mere purpose of filling up space. The practical selection and arrangement of an editor's schedule is just as important to the success of his publication as a well-developed running schedule to a railroad system—and every man on a division knows what it means when it becomes necessary to disrupt a schedule in order to let a fast special go through.

We side-tracked a feature which we promised you for this number—a new story by a new author, "The D. F. and Q. Robbery," by Warren Kraley—in order to make room for C. H. Claudy's very interesting paper, "Railways on the Firing Line," suggested by the warring nations of Europe.

It is a timely and authoritative paper, and it shows just how necessary are the big steam roads in such a crisis as that which now shocks the entire world.

We will send Mr. Kraley's story over the main line of our Christmas number, and we feel certain it will be just as acceptable to you in that issue.

RETURNING to the problems of war and the part played by railroads, but little attention has been given to their particular importance in the present conflict. Since early summer the world has read with awestricken countenance of a human slaughter greater than the wildest calculations of the most bloodthirsty war-god. In the whirl of siege and battle, the taking of cities, the hurling back of troop on troop, of deadly bombs flickering from the skies, of brave men going smilingly to their death, of babes made fatherless and wives made widows, the world has little realized that those vast armies could never have been brought face to face without railroads to transport them.

Can you picture the sudden and complete abandoning of every freight and passenger railroad schedule in six great nations in order that the railroads may serve their government?

Can you picture thousands of passenger and freight cars, in Germany, France, Russia, Belgium, and Austria turned into traveling forts and railroad men drilled to carry arms?

The railroads are playing a mighty part in this mighty battle of the kings. Our readers want to know how they do it. In the December number Charles Frederick Carter will present this big subject in an exhaustive paper. Mr. Claudy's article establishes the importance of the railroad as a war factor; Mr. Carter's article will describe what the European railroads have done since they were forced into the big turmoil.

WE sincerely hope that you have not failed to read George H. Pardy's story, "Side-Tracked by a Sea Dog," which has the place of honor in this number. If you passed it by, turn back and read it, if for no other reason than its humor.

Pardy is an Irishman. He was born with the Irishman's gift to see the funny side of everything. He makes his début in this number, and like many others who have brought entertainment to these pages, he was once a railroader. We have just accepted his second story, "Doubling with Bat Somers," for our Christmas number. It's about a man named *Shannon*, and if

you don't laugh at *Shannon's* blustering assurances and the strategic frame-up of *Conductor Rowland,* we will promise to grow a black beard and go around with it tied up in black ribbons.

CHARLES WESLEY SANDERS will contribute the complete novel. "Bare-handed MacLaren" is a big, meaty book. We ordered Sanders to write it, and when we say that it is a more classy product than we expected, we are not slighting Sanders or ourselves.

Sanders, who made his bow to the world of letters in this magazine is today a fixture in American fiction. This former telegraph-operator has made for himself an enviable place. Young, sturdy, quick to catch the values of plot and interest, a master of suspense and a storehouse of information, he is now kept busy by a dozen magazines. Nearly every popular fiction magazine you pick up nowadays contains a story by Charles Wesley Sanders.

WE will introduce Alex Shell Briscoe with "Cotton Pulls an Intervention." In keeping with the times, it's about war. We will also introduce Buckley Olcott, whose story, "It's an Ill Wind," is the real railroad dope.

Arthur J. Williams, who wrote that funny story in our August number about the man who lost his only pair of pants out of a Pullman window, has another in the Christmas number.

Ladd Plumley's "A Rifle, One Man—and a Brain," is one of the most thrilling hold-up stories ever written.

E. A. Morphy, who contributed "A Sardine Upon the Waters," in our October number comes back with "The Pen Is Mightier—" based on his personal effort to collect a five-dollar claim. A much-traveled writer is Morphy—a man who gilds his stories with the deft lilt of the literary scholar.

THERE is also in the December number a hair-raising series of the close calls with danger that are part of the railroad life. These stories are not about men who have flirted with the safety-first movement. Each is an actual happening—the sort of thing you are up against when the hogger yells—"Jump!"

"Puffing Billy" will tell in a plain, practical way how locomotives are designed in the plants where they are constructed.

Up-to-date articles will tell how couplers are being made stronger and how signals are being improved. The latest equipment will be described. There will be true stories of the danger and daring of railroad men and telegraphers and humorous stuff to add the necessary spice to a number with varnished sides and the right of way over everything.

"Honk and Horace," "The Observations," "Spike Malone," and all other old friends and features? Like the glory of life, they are always with us.

A CHANCE FOR AMERICAN ENGINES.

WITH all Europe engaged in a costly and probably long-drawn-out war, it has been repeatedly pointed out that America has an unparalleled opportunity to secure foreign business of all kinds almost without competition.

In no other line, perhaps, would this new business be so much appreciated just at present as in the building of locomotives.

For some years past the locomotive business in America has languished. Four years ago saw the builders putting the finishing touches to new shops and even complete new plants in anticipation of continued business at the rate of the past years, and which they had handled with great difficulty with their cramped facilities.

No sooner were all prepared with splendid new shops and expensive modern tools when the railroads, forced to economize, because of political interference, ceased ordering engines at the normal rate.

What looked like the ordinary temporary depression has developed into a long siege, with small prospect of any immediate change for the better.

Shops are closed, tools deteriorating, and the working force scattering to new fields, leaving the big concerns unprepared in the event of a sudden resumption of demand.

We have always had some foreign demand for our engines, notably from Japan, China, South Africa, Cuba, Mexico, Brazil, and Chile, and even on occasion have

built for France and England; but the unfamiliarity of our builders with foreign designs, and the different tool-equipment required have tended to maintain our prices at too high a scale in comparison with English, German, and French competitors.

If we could get this business in sufficient volume to warrant the necessary outlay and to familiarize ourselves with foreign practise, there is no reason why American ingenuity and efficiency should not triumph in this field as it has in the case of machine tools, sewing-machines, typewriters, harvesting machinery, and automobiles.

We might even, with the present advantage, induce the foreigner to depart from some of his notions and accept without prejudice good, straightforward American design.

This is not impossible, and has been done—a specific case being the American designed Mallet engines, several lots of which were built previous to 1903 for the Consolidated South African Railways by a prominent American builder.

Owing to "inferior" American workmanship—and pressure from unknown sources—similar engines, based on the American drawings, have been built by a British concern. In this case the American designer, less conservative than the English, succeeded in producing a type so well suited to the peculiar conditions—light iron and heavy grades—that on receipt of the first sample engine, all other types became obsolete.

We have shown France a thing or two about the manufacture of boilers, as one of our builders, up to a year or so ago, did a fairly good business in extra fire-boxes—cheaper and better made—than could be purchased abroad even with the duty added.

Now is the time for our locomotive builders and manufacturers of other railway equipment and appliances to put all their "pinch-hitters" in foreign territory—particularly in South America, where Germany and Belgium have heretofore held sway.

We must make a few concessions to foreign prejudices; do a little more accurate work; pay more attention to the little things which make the "finish" of the machine, and there is little fear that, by seizing this opportunity we may gain a foothold from which the reestablishment of European prosperity will be unable to drive us.

IS THERE SUCH A PLACE?

EDITOR, RAILROAD MAN'S MAGAZINE:

WILL some of the readers of the RAILROAD MAN'S MAGAZINE please tell me if there is another place in the United States, except Grand Falls, Minnesota, on the M. and I., and B. F. and I. F. railways, that is a terminal of two railroads where there is no register, no operators, and no agents?

Grand Falls, Minnesota, is a terminal of the Big Fork and International Falls and the Minnesota and International railways. It has never had an agent or an operator, and has never been an open station. Grand Falls is also only a flag stop for all trains. —C. H. FAIRCHILD, Littlefork, Minnesota.

LONGEST FREIGHT RUN.

EDITOR, RAILROAD MAN'S MAGAZINE:

THE Seaboard Air Line has a freight division of two hundred eight miles from Jacksonville to Tampa, Florida. Fast freights make it in from eight to ten hours and slow freights in from twelve to fourteen hours. The Santa Fe loses.—A. V. L., Saluda, South Carolina.

WE ARE INDORSED.

EDITOR, RAILROAD MAN'S MAGAZINE:

I INDORSE your advice to railroad men to stay away from South America unless they come here with an iron-clad contract. Even then the contract should be registered before the nearest United States Consul.—AIR-BRAKE INSPECTOR, Mejillones, Chile.

ARE YOU INTERESTED?

EDITOR, RAILROAD MAN'S MAGAZINE:

I HAVE "Osborne's Guide to the Grand Junction Railway" (the pioneer of the London and North-Western Railway), for 1838; a time-table dated 1866 of the Franklin Branch (Meadville to Oil City, Pennsylvania), of the old Atlantic and Great Western Railroad; a plan of the old McHenry House at Meadville, Pennsylvania, dated 1863, at one time considered the finest dining place on the trip between New York and Chicago; also tickets, passes, time-tables, and curious data of the New Zealand Government Railways, and

of the Natal (South African) Government Railway of the time when I worked in their transportation department thirty-five years since.

Have any of your readers ever worked on these roads or are any of them interested in the above?—L. K., Trenton, New Jersey.

MR. CLAUDY'S NOVEL STRIKES TEN.

EDITOR, RAILROAD MAN'S MAGAZINE:

I HAVE been a reader of the RAILROAD MAN'S MAGAZINE for the last six months and consider it the best and most interesting magazine I ever read. I take great pleasure in telling you that the novel in the August number, entitled "The Clues That Were Not There," I believe to be the best novel you have published.—R. T. ARMSTRONG, Kenosha, Wisconsin.

RECENT BOOKS.

MR. BLACKALL'S "AIR-BRAKE CATECHISM."

NO railroad man can know too much about the air-brake. A device indispensable to the safe operation of modern rolling-stock, it is constantly being made more dependable by various improvements springing from expert minds. Its particular value to the railroad world is well indicated by the numerous technical works that are devoted to its practise. The latest volume to come to our desk is the "Air-Brake Catechism," by Robert H. Blackall. A glance at the book reveals its wealth of information; the serious consideration of its contents impresses one with its informative value. The book contains 406 pages, and, to strip the text of heaviness, the matter is presented in the form of questions and answers. In addition to the large number of contingencies covered by these questions and answers, they are emphasized and made clearer by 149 diagrams, some of them in color. The book takes one from the very beginning of air-brake study to a wide knowledge of its operation.

"Air-Brake Catechism," Robert H. Blackall, Norman W. Henley Publishing Company, 132 Nassau St., New York City. Price, $2.

FOR AMBITIOUS CLERKS.

As every freight-clerk knows, if he is to rise above the rudimentary stage, his work demands something more than a knowledge of penmanship and arithmetic. As he advances he finds an ever-increasing necessity for the understanding of broad questions. In its "Interstate Commerce and Railway Traffic Glossary," the La Salle Extension University has prepared a very valuable work for the ambitious freight man. Though the layman may not know it, the transportation of freight involves the use of a great number of technical terms which to him would mean nothing more than a war message in a foreign code. The glossary seeks to explain these terms to the student so that he may have the information necessary to understand just what the actual movement of traffic means in a deep, broad sense. The university has issued it in conjunction with its Interstate Commerce course. Interested readers may obtain information by writing direct.

"Interstate Commerce and Railway Traffic Glossary," La Salle Extension University, Chicago.

LESSONS ON LOCOMOTIVE ENGINEERING.

Frederick J. Prior, author of "Easy Steps to Locomotive Engineering," truthfully calls his little volume a series of simple explanatory lessons. He begins with a very lucid description of the parts of a locomotive, explains their coordination as a working machine and elucidates the question of human control, also giving some valuable advice on economical and effective firing. After having told his readers all this he justifiably takes it for granted that they thoroughly understand their subject, and he follows with a series of questions which form an interesting test of a student's ability to assimilate the lessons on paper. There are eight lessons in all, each clear and pithy. Two ample charts are offered for the reader's assistance. Even an "old rail" would find it worth reading.

"Easy Steps to Locomotive Engineering," Frederick J. Prior, Truth Publishing Company, 209 South State Street, Chicago. Price, $2.

ANOTHER MAIL-SACK WRECK.

EDITOR, RAILROAD MAN'S MAGAZINE:

IN your August number I read an account of a mail-sack turning a switch and wrecking a train. I saw the same thing happen in Kersey about two years ago.

We are on the eastern slope of the Rockies. U. P. train No. 12 was rolling along at about fifty-five miles an hour.

When the mail-clerk started to throw off the sack there was a crowd standing at the depot. He hesitated a second before throwing the sack, and when he did it struck the ground and bounced against the switch-stand, breaking the "eye" of the lock. Six of the eight coaches that made up the train crossed safely, but the last two were wrecked. One was stood on end and the other was hurled across both tracks.—S. E. E., Kersey, Colorado.

ADDRESSES WANTED.

INFORMATION is wanted concerning Harry M. Wheeler and his wife. When last heard from, in 1903, they were in Pueblo, Colorado. Mr. Wheeler was employed on one of the railroads in that city. Any information should be sent to his mother at 523½ South Ervey Street, Dallas, Texas.

THE POETS' CORNER.

EVOLUTION.

BY LANGDON SMITH.

HISTORY records that, in 1895, Langdon Smith, at that time connected with the Sunday edition of the New York *Herald*, wrote the first few stanzas of the following poem. They were printed in the *Herald*. Four years later, having joined the staff of the New York *Journal* in the interim, Mr. Smith came across the verses among his papers, and, reading them over, was struck with a sense of their incompleteness. He added a stanza or two and laid the poem aside. Later he wrote more stanzas and finally completed it and sent it in to Arthur Brisbane, editor of the *Evening Journal*. Mr. Brisbane, being unable to use it, turned it over to Charles E. Russell of the *Morning Journal*. It appeared in the *Morning Journal*—in the middle of a page of want "ads"! How it came to be buried thus some compositor may know. Perhaps a "make-up" man was inspired with a glimmer of editorial intelligence to "lighten up" the page.

But even a deep border of "ads" could not smother the poem. Mr. Smith received letters of congratulation from all parts of the world, along with requests for copies. The poem has been in constant demand; and it has been almost unobtainable. Here it is given to the public in a suitable position, with proper recognition—proof once more that the true literary spark cannot long remain hid under a bushel.

Mr. Smith has caught a note of deep interest. He has linked evolution to the theory of soul-transmigration—has translated Wordsworth's ode on immortality into the terms of science. "The glory and the dream" come, not from another world, but from the Paleozoic period, in which existed the most ancient forms of life of which traces still remain. And the author gives us glimpses of man in several geological periods, showing him, finally, as the cave man of the Stone Age; whence it is comparatively a short jump to the twentieth century—and Delmonico's.

WHEN you were a tadpole and I was a fish,
In the Paleozoic time,
An side by side on the ebbing tide
We sprawled through the ooze and slime
Or skittered with many a caudel flip.
Through the depths of the Cambrian fen,
My heart was rife with the joy of life,
For I loved you even then.

Mindless we lived and mindless we loved,
And mindless, at last, we died;
And deep in a rift of the Caradoc drift
We slumbered side by side.

The world turned on in the lathe of time,
The hot lands heaved amain,
Till we caught our breath from the womb of death
And crept into light again.

We were Amphibians, scaled and tailed,
And drab as a dead man's hand;
We coiled at ease 'neath the dripping trees,
Or trailed through the mud and sand,
Croaking and blind, with our three-clawed feet
Writing a language dumb,
With never a spark in the empty dark
To hint at a life to come.

Yet happy we lived, and happy we loved,
And happy we died once more;
Our forms were rolled in the clinging mold
Of a Neocomian shore.
The eons came, and the eons fled,
And the sleep that wrapped us fast
Was riven away in a newer day,
And the night of death was past.

Then light and swift through the jungle trees
We swung in our airy flights,
Or breathed in the balms of the fronded palms,
In the hush of the moonless nights.
And, oh! what beautiful years were these,
When our hearts clung each to each;
When life was filled and our senses thrilled
In the first faint dawn of speech.

Thus life by life, and love by love,
We passed through the cycles strange,
And breath by breath, and death by death,
We followed the chain of change.
Till there came a time in the law of life
When over the nursing sod
The shadows broke and the soul awoke
In a strange, dim dream of God.

I was thewed like an Auroch bull,
And tusked like the great Cave Bear;
And you, my sweet, from head to feet,
Were gowned in your glorious hair.
Deep in the gloom of a fireless cave,
When the night fell o'er the plain
And the moon hung red o'er the river bed,
We mumbled the bones of the slain.

I flaked a flint to a cutting edge,
And shaped it with brutish craft;
I broke a shank from the woodland dank
And fitted it, head and haft.
Then I hid me close to the reedy tarn,
Where the Mammoth came to drink.
Through brawn and bone I drave the stone
And slew him upon the brink.

Loud I howled through the moonlit wastes,
Loud answered our kith and kin;
From west and east to the crimson feast
The clan came trooping in.
O'er joint and gristle and padded hoof
We fought and clawed and tore,
And cheek by jowl, with many a growl,
We talked the marvel o'er.

I carved that fight on a reindeer bone,
With rude and hairy hand,
I pictured his fall on the cavern wall
That men might understand.

For we lived by blood and the right of might
Ere human laws were drawn,
And the Age of Sin did not begin
Till our brutal tusks were gone.

And that was a million years ago,
In a time that no man knows;
Yet here to-night, in the mellow light,
We sit at Delmonico's;
Your eyes are deep as the Devon springs,
Your hair is as dark as jet.
Your years are few, your life is new,
Your soul untried, and yet—

Our trail is on the Kimmeridge clay,
And the scarp of the Purbeck flags,
We have left our bones in the Bagshot stones,
And deep in the Coraline crags;
Our love is old, our lives are old,
And death shall come amain;
Should it come to-day, what man may say
We shall not live again?

Then, as we linger at luncheon here,
O'er many a dainty dish,
Let us drink anew to the time when you
Were a Tadpole and I was a Fish.

ROLLING HER HOME.

BY GRANT HERVEY.

CLAWING the miles with her space spurning pistons,
Shaking the earth with tyrannical tread;
Sinking her fangs in the heart of the distance—
Sleepers ajump in the permanent bed.
Stars glowing red in the zenith above her,
Towns lying dim in the distance behind;
Heeding the voice of the captains who love her—
Thinking herself with a logical mind.

Urging her, surging her, making her rattle;
Punching the gradients straight in the eye;
Cohorts of cars rushing forward to battle—
Trail of our smoke hanging over the sky.
Grabbing her, jabbing her, making her hustle,
Roaring through cuttings with steep sides of chrome,
Steam hurtling strength through each shining muscle,
Lo! we go thundering—Rolling her Home.

Back to the hives again—home to our wives again—
Ho! the blue shirts in the railway man's yard.
Back to the coast again, proving our boast again—
Running our trip by the literal card.
On time to the second, and bearings all rhythmical,
Chanting a tune in their rolling delight;
Specters may beckon and Satan's own kith may call—
Triumphant we flash throughout the thickest of night.

Lashing her, crashing her; foot-plates a clatter—
Cranks swinging forward in maniac haste;
Leaving the darkness and silence a shatter—
The former in twain and the latter effaced.
Gigantic and frantic, she sways in her agony,
Her cars all a beat with a vast metronome.
Driving her on in her mighty protagony,
Lo! we are gallantly—Rolling her Home.

Greasy old blues hanging limply upon us,
Faces embellished with coal-dust and sweat;
With lip-curls and sneerings the swell folk may con us,
But we hold dominion o'er all the world yet.
Majestic we march on the foot-plates in glory,
Our scepter the age-gripping Westinghouse brake.
And where is the song, the romance, and the story
To better the song that we leave in our wake?

Flinging her, swinging her—hark, how she thunders!
Tearing exultantly down the low grade;
Machine-god incarnate, and chiefest of wonders,
That man with his brain and his muscle hath made.
Lifting her, shifting her—Lo! we go roaring—
Embankment aquiver, through gravel and loam;
Controlling her, rolling her, sending her soaring,
Spurning space, churning space—Rolling her Home.

THE OLD TRACK GANG.

TWAS just an ould photograph, faded an' yellow,
Long treasured in somebody's album, Oi know,
But from it came mimories, sacred an' mellow,
Thot gave me back fri'nds av a glad long ago.

It brought to me mind th' ould thrack gang, begorra;
Thim b'ys as well knew how a rail should be laid;
Thim lads as could work all to-night and to-morrow,
Thin sphit on their hands an' go livel a grade.

Though humble an' poor, they were men, let me tell ye,
Wid gintlemen's pride in their sinew an' bone;
Their hearts were as babes if a sorrow befell ye,
But pity they'd not for a blackguard or drone.

Down there on the thrack wid their shovels an' gages,
Their picks an' their crowbars av hefty design;
Ye heard not a word about history's pages,
But, "Squint at thot rail, lads, an' git it in line."

Shure, they had no derricks or fancy invintions,
For liftin' the rails from the top av the car;
They used Oirish muscles av Trojan diminsions,
An' tumbled thim off wid th' aid av a bar.

They tamped ties an' laughed av their own youthful glory
Whin they wint a sparkin' on Erin's ould sod;
They paused now an' thin for the joke av a story
An' pitied poor divils thot carried th' hod.

At noon, whin th' boss sounded truce for an hour,
Their dinner-pails filled iv'ry innermost nade;
Thin, peaceful an' calm as a midsummer shower,
They smoked their dudeens in th' cool of th' shade.

But thim was th' ould days—days sacred an' mellow—
Whin thrack-layin' shkill was a virtue, begob;
So take off yer hat to ould genius, young fellow;
Thim b'ys could build railroad—an' loaf on the job!—*Indianapolis News.*

Women's ideal heating!

No sight in any house tells more of its true hominess than "mother" or "grandmother" contentedly sitting with her sewing beside a warm radiator that shields the room from the slightest discomfort of winter chill; and a pot-o'-tea steeping on its top. Such protective heating is a sign of generous regard for those who spend most of their time at home, and you secure a perpetual *guarantee* of this cozy feeling through

AMERICAN RADIATORS & IDEAL BOILERS

During the entire heating season, day and night, your rooms from attic to basement are genially warmed—as snug by the window side as in the center of the building. You have this comfort in a clean way—for *ideal* heating distributes no dirt, dust, soot or gases in the rooms; the daily pull on woman's cleaning energy is therefore much reduced.

This also appeals to women: Our ingenious IDEAL SYLPHON Regulator automatically controls the draft- and check-dampers of IDEAL Boilers, thus freeing the housewife from the responsibility of seeing there is even temperature in the rooms; also avoiding frequent journeys to the cellar to change the dampers.

A No. 1-19-S IDEAL Boiler and 184 sq. ft. of 38 in. AMERICAN Radiators, costing the owner $130 were used to heat this cottage. At this price the goods can be bought of any reputable, competent Fitter. This did not include cost of labor, pipe, valves, freight, etc., which vary according to climatic and other conditions.

IDEAL-AMERICAN heating outfits burn wood, gas, oil, lignite, hard and soft coals, even low-priced pea-coal, slack, screenings, etc. They require no annual overhauling, putting up and taking down pipes, blacking, etc. Put in *old* buildings quickly without tearing up or disturbance to occupants. They are a permanent investment, insuring larger rental or quicker sale of premises.

We cordially invite the inquiry of every housekeeper, or those interested in stores, schools, churches, etc. Will gladly send booklets and helpful information without cost or obligation. Why not write *today?*

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Showrooms and Warehouses in all large cities

AMERICAN RADIATOR COMPANY

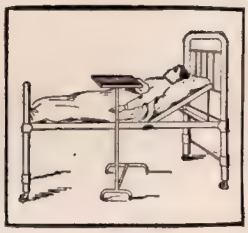
Write Department J 816-822 S. Michigan Avenue, Chicago

200 Manufacturers Waiting for Inventions

Your Idea May Be the Very Thing Someone Wants

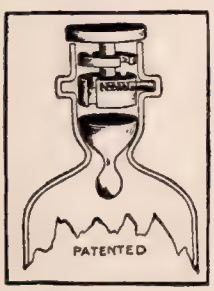
(By a Washington Patent Attorney)

The majority of money-making inventions come from amateurs. A market is waiting for every patented device of merit, big or little. A man, woman or bright boy sees the need of a simple improvement in a utensil—or makes a new device—patents it and forthwith finds himself receiving a handsome profit—sometimes an income.



I know of 28 concerns that are looking for a new window screen, duly covered by patent, which they can manufacture. I know of 46 manufacturers and others who are ready to manufacture any good patented household article, such as can openers, baking pans, coffee pots, washing machines, carpet sweepers and other devices. Within the last few weeks I have received forty special requests for a dishwasher and drainer. Seventeen others request an improvement in scissors.

Among my letters are sixteen requests for a device to turn sheet music on a music stand or piano, and seventeen people are interested in the purchase of a patent for holding an electric light in any position.



A man at Woodhaven, N.Y., says he is in the market for a small household article, light in weight, which can be sold somewhere around ten cents.

A man in Revere, Mass., says: "I am looking for something that can be manufactured, plant equipped, etc., and marketed for an outlay of not over twenty-five thousand dollars."

A company in Belvidere, Ill., wants patents on small tools or metal novelties.

A Dayton, O., concern writes for some machine or device that would have a general sale throughout the country.

The names and addresses of these prospective purchasers are supplied absolutely without charge by Messrs. Chandlee & Chandlee to those who obtain patents through their firm. This firm has been in practice before the Patent Office for over twenty years and its members are consequently familar with every detail of patent work. They also issue a booklet entitled "How to Obtain a Patent," which tells in simple words just how to go about protecting an invention. The two books "What to Invent" and "How to Obtain a Patent" are both free. Why don't you write for them and learn what manufacturers are looking for, and how to protect your ideas? If you have an invention send a sketch or model and description of it to Chandlee & Chandlee, 942 F Street, Washington, D.C. They will give you a free opinion as to whether or not it can be patented.

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Have you noticed many houses advertising that they make your clothes "to measure?" You think you're getting Tailor-Made-to-Your-Order clothes, but you're not. They simply sell you "hand-me-downs" that they have in stock just the same as regular clothing stores. You wonder why they don't fit—no style—no wear—you're dissatisfied. There's a big difference between "made-to-measure" and "made-to-order" garments and our clothes SHOW that difference.

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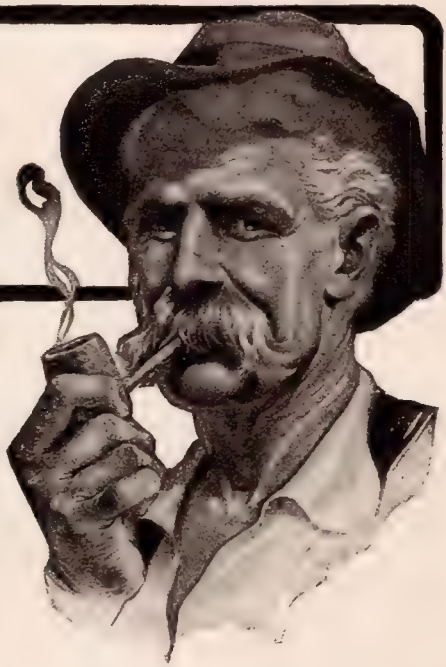

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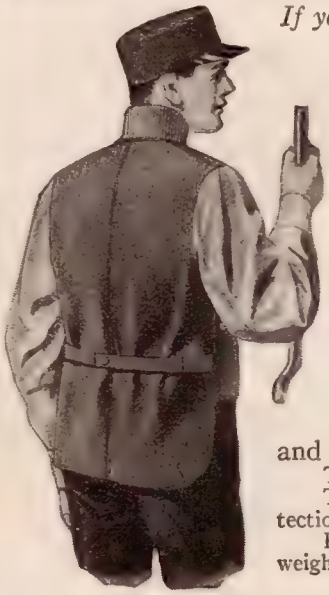

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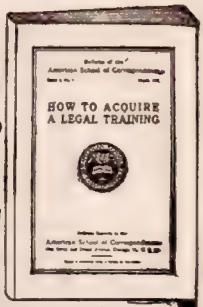

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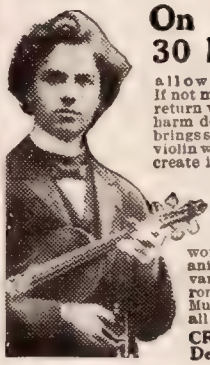

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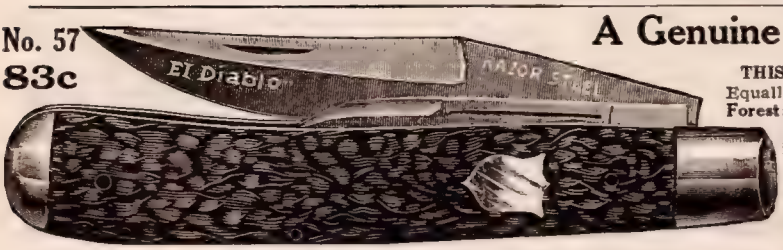

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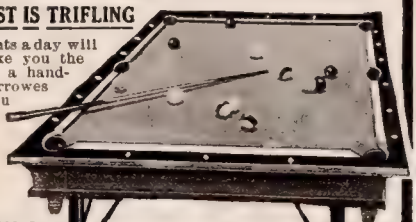

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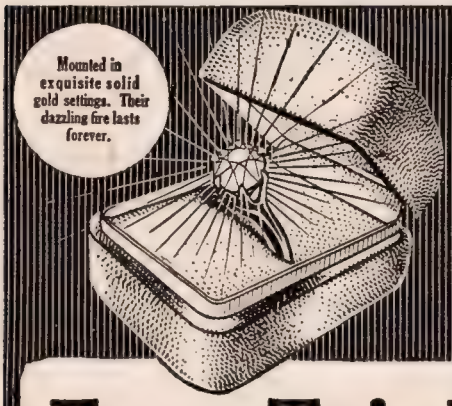

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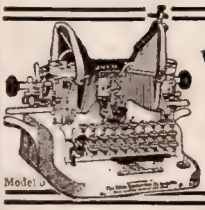
Remoh Jewelry Co., 610 Washington Ave., St. Louis



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$4 Per Month Buys This Visible OLIVER TYPEWRITER

Nothing Down—Free Trial. Less than Agents' Prices. Shipped on approval. If you want to keep it, send us $4 a month. Our booklet is worth sending for because it tells you how to save $48.00. It's FREE.

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Our Watch Talk shows you how to save money on the latest Elgin, Waltham and other high-grade, **factory-tested,** time-keepers; and helps you select a watch that will give you a life time of satisfaction. $20 buys a fine 21-Jewel Railroad Watch that passes inspection on **any** Road. Write today.

SUTTON WATCH CO., 209 Keller Building, LOUISVILLE, KY.

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at 1/50 the cost—IN SOLID GOLD RINGS

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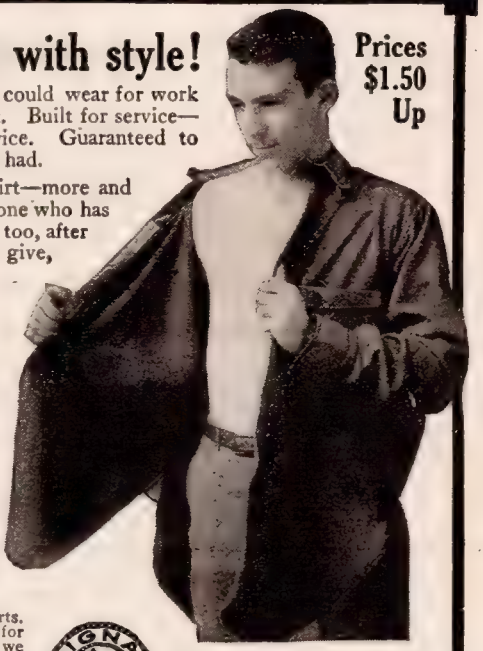
BARODA CO., Dept. R11, 1460 Leland Ave., Chicago

A serviceable Flannel Shirt with style!

Prices $1.50 Up



You've always wanted a good flannel shirt that you could wear for work or pleasure—and here it is—the Signal Flannel Shirt. Built for service—and gives it, yet stylish as a shirt for dress-up service. Guaranteed to wear better than any other flannel shirt you've ever had.

Railroad men especially appreciate a good warm shirt—more and more they are buying Signal Flannel Shirts. Everyone who has worn a Signal Shirt is an ardent booster—you will be, too, after you discover the comfort and wear that these shirts give, without sacrificing style.

SIGNAL Flannel Coatshirts

UNION MADE

Wear well—keep their style—last a long while. Big armholes that will never bind, roomy elbows, extra long sleeves, wide cuffs. Snug-fitting, non-irritating military collar that fits comfortably. Three-inch over-lapping flaps in front. Combination watch and handkerchief pocket, with a flap you can button. Extra button at bottom of breast plait to prevent gapping. Prices $1.50 and up. Signal Flannel Shirts are also made closed style in a large variety of styles and patterns—military, plain or detachable.

You get in Signal Flannel Shirts the same quality, style and service that made Signal Overalls and Workshirts the universal favorites with railroad men.

Flannel Shirt Free Ask your dealer for Signal Flannel Shirts. If he hasn't them induce him to send for sample swatches, mentioning your name, and with his first order we will include a shirt for you absolutely without charge.

Hilker-Wiechers Mfg. Co. 1252 Mound Av., Racine, Wis.

Manufacturers of the famous Signal Overalls, Coats and Shirts

Always look for this trade-mark—it's the "Safety First" Sign in buying Shirts and Overalls.

Marlin

20 Gauge—This neat little, sweet little pump gun adds zest to the sport of shooting—5 shots, about 5⅞ pounds, 25-inch barrel. A perfect gun for snipe, quail, partridge, woodcock, squirrels, rabbits, etc.—handles fast and with wonderful precision. ¶ You will like the handsomely matted barrel—a high grade and exclusive feature. ¶ Uses 2¾- as well as 2½-inch shells, allowing good, stiff loads for duck and trap shooting. ¶ For longer range or increased weight, you have option of 28-inch barrel at the same price—$24.00.

Hammerless Repeating Shotguns

12 and 16 Gauge: Hammerless, for ducks, geese, foxes, trap shooting, etc.; perfect in build, weight and balance for the heavier loads. Like the 20 gauge, they have solid top, side ejection, matted barrel, take-down construction, and the solid-steel-breech and safety features that make it the safest breech-loading gun built. Six quick shots. ¶ **Hammer Guns,** take-down, solid top, side ejection, closed-in-breech. Many grades and styles.

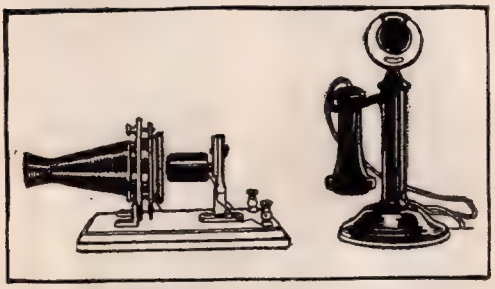
Write for full details of 20 gauge—or send 3c postage for catalog of all Marlin repeating rifles and shotguns.

The Marlin Firearms Co.

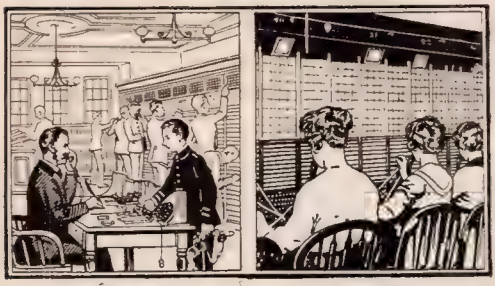
32 Willow Street, New Haven, Connecticut

How the Public Profits By Telephone Improvements

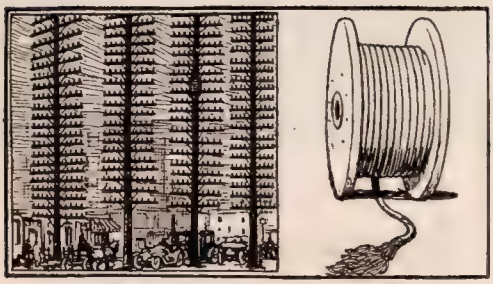
Here is a big fact in the telephone progress of this country:



Original Bell Telephone 1876 — Standard Bell Telephone To-day



Early Telephone Exchange — Typical Present-day Exchange



If City Wires Were Carried Overhead — 800 Wires in Underground Cable

Hand in hand with inventions and developments which have improved the service many fold have come operating economies that have greatly cut its cost.

To appreciate these betterments and their resulting economies, consider a few examples:

Your present telephone instrument had seventy-two ancestors; it is better and cheaper than any of them.

Time was when a switchboard required a room full of boys to handle the calls of a few hundred subscribers. Today, two or three girls will serve a greater number without confusion and very much more promptly.

A three-inch underground cable now carries as many as eight hundred wires. If strung in the old way, these would require four sets of poles, each with twenty cross arms — a congestion utterly prohibitive in city streets.

These are some of the familiar improvements. They have saved tens of millions of dollars. But those which have had the most radical effect, resulting in the largest economies and putting the telephone within everyone's reach, are too technical to describe here. And their value can no more be estimated than can the value of the invention of the automobile.

This progress in economy, as well as in service, has given the United States the Bell System with about ten times as many telephones, proportionate to the population, as in all Europe.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy *One System* *Universal Service*

"You've Simply Got to Earn More Money—QUICKLY"

Your living expenses are increasing—**everything** costs more than it used to.

Worrying will not mend matters. The cost of living will be higher before it is lower. **You've simply got to earn more money.**

Business today demands **trained** men and pays them salaries based upon what they **know.** You've got to earn more and you **can** earn more, but you must have the training to fit you for a bigger salary.

The business of the International Correspondence Schools is to prepare men for better jobs. They will give YOU the special training that you need to advance in your present occupation or fit you for more congenial work.

For 23 years the I. C. S. have been helping men just like you to earn more money, **quickly.** Of the 270 I. C. S. courses of instruction there is one that meets **your** needs.

Learn how easily you can fit yourself for a higher salary, without loss of time from your present occupation. Mark and mail the coupon now, and full information will be sent to you.

Mark the Coupon

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Explain, without further obligation on my part, how I can qualify for the position before which I mark X

Salesmanship	Civil Service
Electrical Engineer	Railway Mail Clerk
Elec. Lighting Supt.	Bookkeeping
Electric Car Running	Stenography & Typewriting
Electric Wireman	Window Trimming
Telephone Expert	Show Card Writing
Architect	Lettering & Sign Painting
Building Contractor	Advertising
Architectural Draftsman	Commercial Illustrating
Structural Engineer	Industrial Designing
Concrete Construction	Commercial Law
Mechan. Engineer	Automobile Running
Mechanical Draftsman	Teacher
Refrigeration Engineer	English Branches
Civil Engineer	Good English for Every One
Surveyor	Agriculture
Mine Superintendent	Poultry Farming
Metal Mining	Plumbing & Steam Fitting
Locomotive Fireman & Eng.	Sheet Metal Worker
Stationary Engineer	Navigation — Spanish
Textile Manufacturing	Languages — French
Gas Engines	Chemist — German

Name_____

Present Occupation_____

Street and No. _____

City_____ State_____

Drawing $150 a Month

THAT'S the ordinary salary for a Draftsman. Hundreds making much more. I have trained hundreds of men—given them the practical instruction that put them in the big money class. The opportunities are almost unlimited. Send me the coupon now. I will send you free and prepaid a new book on drafting and tell you how you can qualify for one of the big jobs.

You Can Do It

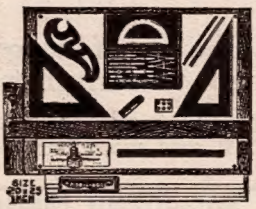
Yes, sir—**YOU** can become a draftsman and get into the big money class. No experience necessary. I will give you practical instruction—the kind that the big firms are demanding—right in you own home. And furthermore, I will give you this instruction just so long as you need it. **I guarantee to train you in practical drafting and designing until you are in a position paying at least $125.00 a month.**

Chief Draftsman Will Instruct You

I am Chief Draftsman of a large and well known company. For over 20 years I have been doing the highest paid drafting work and I know just the kind of training that the big firms are demanding. Practical instruction is absolutely necessary and it is by practical instruction that I fit you to accept a high salaried position. My offer to give personal instruction to a few ambitious men is limited. Send the coupon.

FREE

$15 Draftsman's Working Outfit



I'll give you this complete $15.00 outfit free as soon as you enroll. Practical regular working instruments—just the kind I use myself. Sent to you absolutely free. Send the coupon.

Chance to Earn Money

I have perfected a plan by which a few men who could not otherwise take up this practical, personal training can earn money to pay their way as they go along. Write for this plan today. Put your name on the coupon at the bottom and get it in to me right away. If you have been one of those who have dreamed of the future of greatness and power, send the coupon.

Positions Open Now

Right now—this very minute—there are many positions open that pay $3,000 and more per year to the right men who have learned drafting. There is lots of room at the top. I got there myself but have found all around incompetent men holding poor positions. They had not been trained right. The thing I want to do is to train you in the practical way you ought to be trained; to show you what to avoid and how to do things right. YOU can get one of the big jobs soon if you will merely send me your name on the free coupon below. No obligations of any kind.

Send The Coupon For Big New Book

Put your name and address on the coupon or a letter or a post card and send to me today. I'll send you absolutely free and prepaid the new book on drafting "Successful Draftsmanship" and tell you all about my great offer to train you to become an expert draftsman. No obligations in sending the coupon. Don't delay an instant—your opportunity to get into the big money class is here. The coupon starts you up the ladder to success. Send it—now.

CHIEF DRAFTSMAN

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Chief Draftsman

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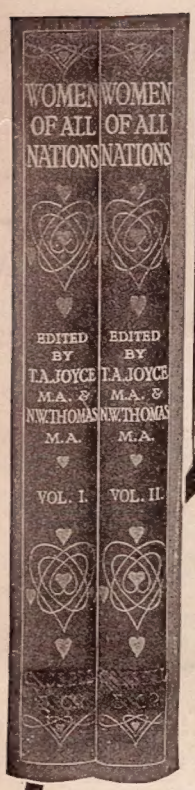
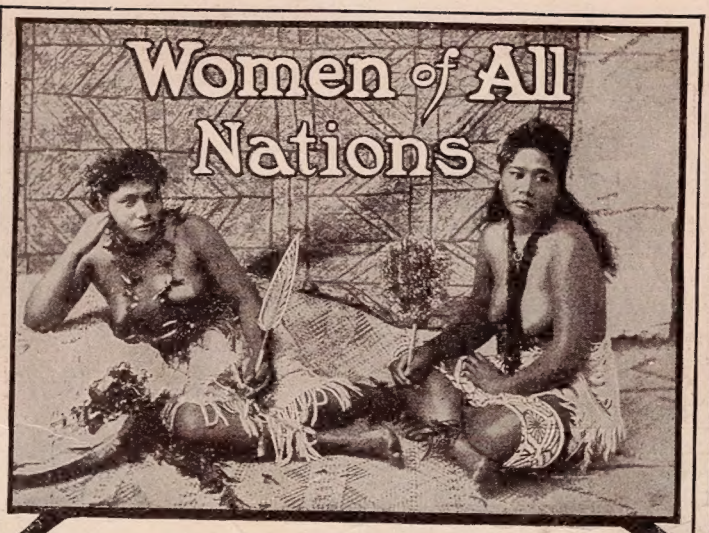
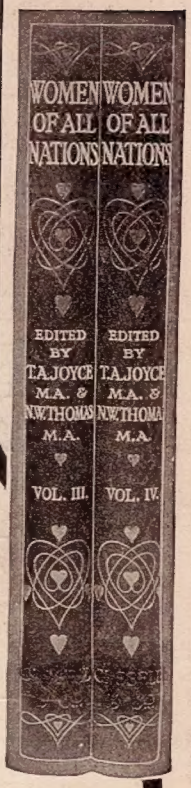
Without any obligation to me whatsoever, please mail your book "Successful Draftsmanship," and full particulars of your liberal "Personal Instruction" offer to a few students. It is understood that I am obligated in no way whatever.

Name .....

Address .....







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HERE'S an interesting and splendidly illustrated set of books that should be owned by every man or woman who likes to study human nature. It is the only standard work that describes the women of all races and nations. In its pages you may read how the women of China, or Samoa, or India, or Sweden live—how they keep house—how they marry—how they treat their husbands—and the vast collection of photographs reproduced in these volumes will show you how they look.

Curious forms of courtship are described; the psychological characteristics of women are discussed; the toilettes of women are depicted, and the fashions range from the laces and frills of the Parisienne down to the scanty skirt of the Fijian belle.

This is a standard, authoritative work, written by such men as Prof. O. T. Mason, of the Smithsonian Institution; Dr. Grunberg, of the Berlin Museum; Mr. Archibald Colquhoun, the famous traveler—but it is as interesting and readable as a story book.

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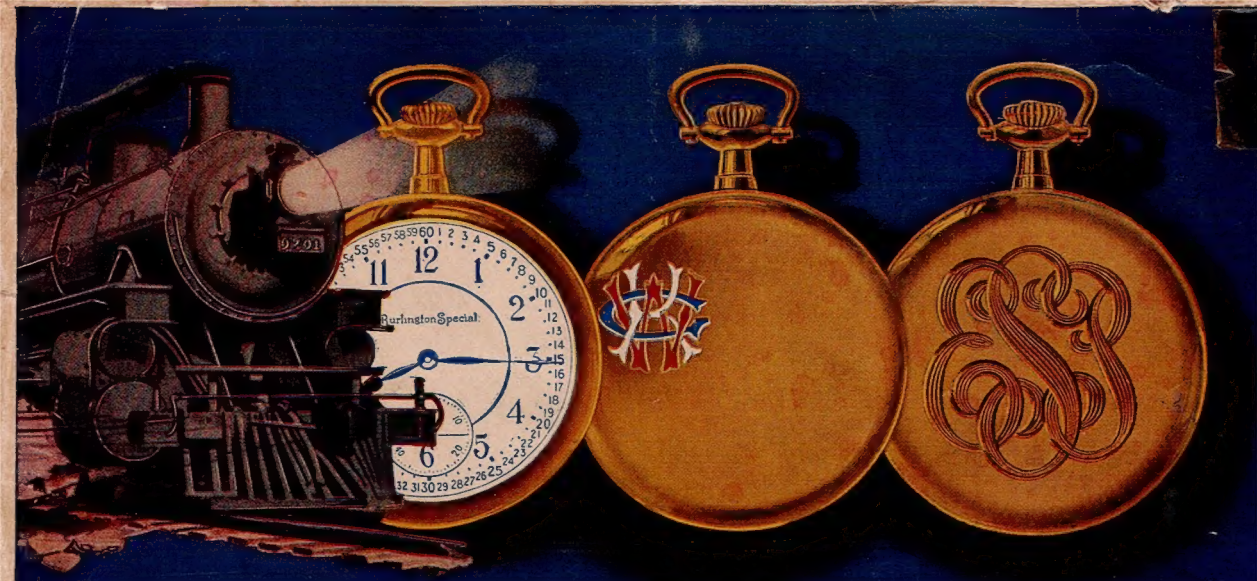

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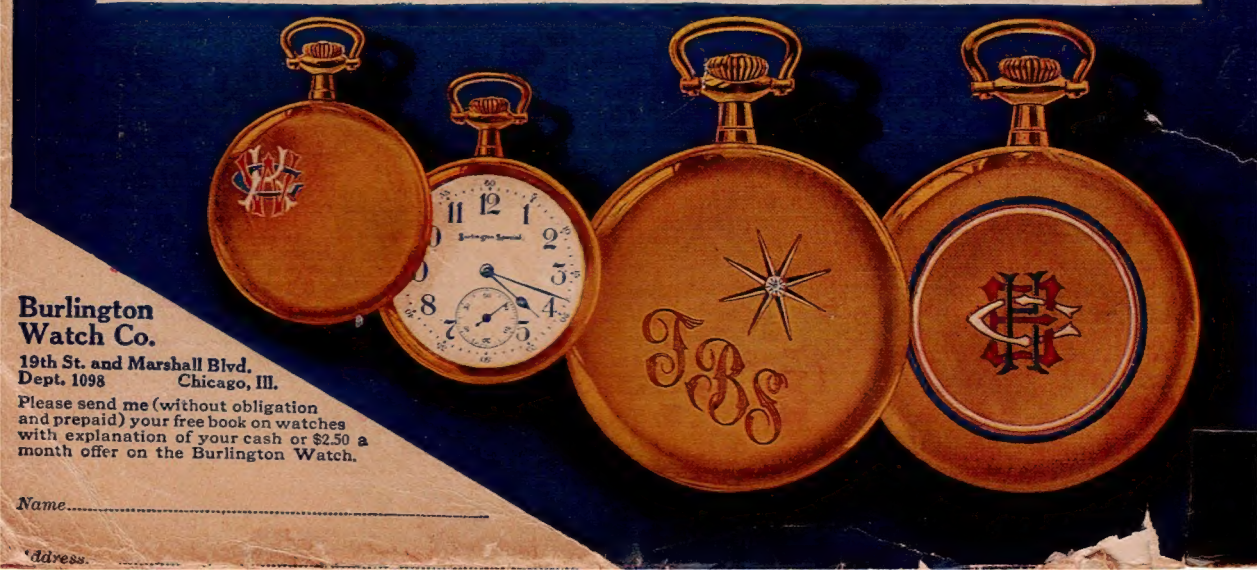

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